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DEFECTS IN THE TEACHING OF PATHOLOGY, AND THE LAY PROFESSOR

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Pathologic anatomy has to do with the structural rearrangements brought about by disease; and that individual who approaches the interpretation of any problem in medicine without a comprehensive knowledge of the normal and altered architecture of the tissues concerned, is poorly equipped for his task. The converse is equally true, namely, that individual who confines himself to the study of pathologic anatomy without attempting to bring it into harmony with the signs of altered function is intellectually blind in one eye.

THE CAUSE FOR DEFECTS IN THE TEACHING OF PATHOLOGY

It is impossible to avoid the conclusion that in this country the teaching of pathologic anatomy is wofully defective, except, perhaps, in isolated instances. There is a disposition in certain quarters to shoulder the blame on the medical schools, and at first glance the stricture appears to be merited. As a matter of truth, I venture the opinion that the responsibility lies elsewhere. In New York State, where one rarely seeks in vain for signs of the New World's progress, the regulations governing the distribution of unclaimed bodies are such as might be expected in a community of avowed obstructionists—in the face of which it is proposed to finance a project to make New York City the medical center of the world! Unfortunately for this plan, the centralization of medical thought and action is a problem less simple than that of the expenditure of money. A medical center must be that place which furnishes the greatest opportunities for the exposure of disease in its anatomic nakedness, and certainly there is little promise of this in any city which consigns the vast majority of its unclaimed dead to a trench in potters' field, where they are abandoned to an end which has nothing to do either with our respect for death or with our regard for the rights of the living. The fault exists in many American centers of population. In these circumstances it is impossible for the schools to secure necropsies in numbers sufficient for the teaching of pathologic anatomy on a scale commensurate with its importance. The subject cannot be taught outside the necropsy room any more than botany may be studied to best advantage without resort to the things that grow in the fields. The demonstration of museum preparations or of organs more or less freshly removed, while useful, conveys only a tithe of the meaning of pathologic anatomy.

The medical schools cannot be expected to send their graduates into action prepared to harmonize anatomic with clinical findings when it has never been impressed on them by other than the shallowest sort of precept that such correlation is essential to the interests of the sick, to the accuracy of vital statistics, and to their own intellectual well-being. Few interns come to us at Bellevue Hospital prepared, for example, to explain the physical signs of croupous pneumonia on the basis of the naked eye and histologic changes in the lung; and how many of these young men, most of them earnest and anxious students, would anticipate a stricture at the isthmus of the aorta when, on lifting the breast plate at necropsy, the distended internal mammary arteries are brought into view?

As bearing specifically on this phase of medical education, I addressed a questionnaire to the resident staff at Bellevue Hospital. Fifty replies were analyzed. They came from graduates of twenty-six different schools in fifteen different states. Of the fifty interns, twenty-nine (58 per cent.) had never performed a single necropsy previous to receiving the degree in medicine; twenty-one (42 per cent.) had never assisted at a necropsy, and nineteen (38 per cent.) had neither performed nor assisted at the performance of a necropsy. Of twenty-one who had performed necropsies before graduation, eleven (52 per cent.) acted in a voluntary capacity, so that of the fifty graduates only ten, or 20 per cent., had performed necropsies as part of their training for the degree in medicine—and these were done in hopelessly insufficient numbers. Of the fifty, all had witnessed necropsies, it is true. Some of these were provided by the schools as part of the required course in pathology, but attendance on by far the greater number was voluntary.

There was a time, still remembered by the older generation of physicians, when the state was obstinate in its refusal to legalize the dissection of unclaimed bodies for educational purposes. The objection was an emotional one—that dissection is a profanation. The schools were accused of body snatching, ghouls trafficked in the dead, and every student of medicine was viewed askance as a sort of skulking felon who was unabashed either by the darkness of the churchyard or the sanctity of the grave. The legalization of dissection was finally brought about after numerous long and bitter fights. In Pennsylvania, if I mistake not, the contest was closed and won by the late William S. Forbes, the militant professor of anatomy in Jefferson Medical College, but only after

he had been systematically vilified by press, pulpit and populace.

OBJECTIONS TO NECROPSIES FOR EDUCATIONAL PURPOSES

In the new order of things, however, dissection of the dead was soon accepted as a matter of course. Any suggestion to suppress it now would be received as an indication of enfeebled mentality. Nevertheless, there still is a deep prejudice in this country against the performance of necropsies for educational purposes. In various parts of continental Europe the people have long since been convinced that postmortem investigation is a public service, an act to be consummated for the welfare of humanity. It is taken as much as a matter of course as is scholastic dissection in this country at the present moment. It seems never to enter any one's head to object, although the continental laws specifically provide that the operation shall not be done if opposition be registered by the family. In this country, on the other hand, necropsy still is all too often regarded as an insult to the dead—a view founded partly on sentiment and derived partly from ignorance. Respect for the presence of death is deep in every one of us. In my own experience in the necropsy room, I have yet to witness a single act which could be construed as a sign of desecration. In seeking consent from responsible relatives, a declaration to the effect that postmortem investigation is a dignified ceremony—not a mutilation—and that the examination will be conducted in a spirit of reverence for the dead, often suffices to elicit a sympathetic response. Even among the more intelligent, such an explanation will be reassuring, but among the less intelligent it should never be withheld and should be emphasized by every force available.

In another and large group of cases, consent is refused because of suppositious religious interdictions. Among the Jews the belief that the Mosaic laws forbid the opening of the body after death is so widely prevalent that it seldom occurs to any one to question it. As a matter of fact, the Jewish religion interposes no objection, and the Jew who denies permission does so of his own election and not because his creed would otherwise be disregarded. He may not be aware of the truth of this statement any more than the Christian is aware of many things in his religion. In one of the large Jewish hospitals in the Middle West, the question of religious objection was met by the superintendent, who invited the heads of the Jewish community to discuss the matter with him. The importance of examination of the body after death was explained to them, and it was related that certain of their coreligionists had refused permission on the ground that the procedure was not sanctioned by ecclesiastical law. Many of the rabbis present were of the same opinion, but the matter was taken under advisement, and, at a second meeting, it was reported that diligent search had failed to uncover any provision which forbade the opening of the body after death.

The most formidable opposition to necropsy is to be found in the laws governing the distribution of the unknown dead. Particularly is this true of New York State. In other communities, notably Pennsylvania, Illinois, Ohio and Louisiana, the laws are more elastic. In Pennsylvania, all unclaimed bodies pass into the keeping of the State Anatomical Board, which apportions them to the several medical colleges for purposes of dissection, and, in certain instances, to the hospital pathologists for instruction by necropsy. In the Philadelphia General Hospital, the chief resident physician informs me that there is a yearly average of about 300 unclaimed bodies. In the summer months, when the medical schools are closed, the State Anatomical Board concedes to the hospital pathologists the right of postmortem investigation in 25 per cent. of the unclaimed bodies and in 35 per cent. during the winter, the Pennsylvania law requiring that every medical student shall have personally participated in at least seven necropsies before he is entitled to receive his degree. In Illinois the unclaimed bodies are cared for by the Demonstrators' Association. At the Cook County Hospital in Chicago, Dr. Fred H. Stangl, the resident pathologist, tells me that there are about 900 unclaimed bodies every year. The hospital has an arrangement with the Demonstrators' Association by which such bodies to the number of from 200 to 275 are given each year to the hospital pathologists for purposes of instruction by necropsy. From the Charity Hospital in New Orleans, Dr. Duval writes that about 1,000 dead are unclaimed every year. Each body at the end of twenty-four hours becomes automatically a subject for necropsy or dissection, depending on arrangements mutually agreed on by Tulane University and the hospital authorities. In Ohio the laws are equally liberal. Any individual who dies in a hospital, and whose body is unclaimed at the end of thirty-six hours, automatically becomes a subject for examination by the accredited pathologist to the institution, and the pathologist is entitled to retain such organs as he may desire for purposes of teaching or research. Under the provisions of this law, Dr. Woolley at the Cincinnati General Hospital tells me that he secures, on an average, 150 necropsies on unclaimed bodies every year.

In New York State things are different. For example, during the year 1918, in the city of New York alone, 7,245 unclaimed bodies passed through the mortuary (an increase of 400 over the previous year, due to the pandemic disease which raged during 1918) and every one of this tremendous number was buried in potter's field without the legal right of necropsy or dissection of any description, with the exception of 715, which were given into the hands of the Anatomical Board for the use of the medical schools. In Bellevue Hospital alone, between 800 and 1,000 bodies are unclaimed every year, and forty-eight hours after death every one of these passes automatically into the custodianship of the commissioner of public charities, who is charged with their burial in potters' field.

"LIVING" PATHOLOGY

An ingenuous method of dissolving the difficulties of teaching pathologic anatomy was recently propounded by one of our surgical interns at Bellevue Hospital in an anonymous document which he posted, or caused to be posted, on the bulletin board. The copy which follows is a true one, faithful to the charm of the original. It is an excellent illustration of the necessity for the broader training of medical students in pathology:

FOOD FOR THOUGHT

Why is it that so many physicians will get up in the middle of the night and travel miles to see a postmortem examination, and yet, many of these same men, in their minds, will consign to eternal oblivion the very thought of taking the elevator to the fifth floor of this building where

they can witness several operations every day, each of which will demonstrate the same changes produced by disease in living tissue before they are obscured by terminal results?

Since the sponsor of this implied protest is unknown, I am quite unable to say whether the sentiment is original or whether the protestant is a disciple of that distinguished Philadelphia surgeon who, in a paper embodying certain observations on what he terms "living" pathology, closes with the delightfully naive decision that "only by standing at the elbow of the surgeon . . . can the internist hope to attain proficiency in diagnosis and proper conception of treatment . . . !" Parenthetically, is not all pathology "living," is there such a thing as "dead" pathology —is it not true that all pathologic phenomena cease with death? Is there a "living" and a "dead" physiology? As a matter of truth, pathology and physiology are mated, and both are living—the one has to do with normal and the other with perverted function. The study of diseased tissues after death is but an attempt to arrive at an intelligent explanation of those digressions which were present during life. The practice of representing pathology to medical students as something which has to do with the dead rather than with the living is pernicious.

THE SURGEON AND THE PATHOLOGIST

There are surgeons that are accomplished pathologists. It is to be feared, however, that the average surgeon is ill prepared to instruct the internist in other than manipulative procedures. Indeed, if a knowledge of pathology were more prevalent among the ordinary run of surgeons and even among certain surgeons of exalted rank, the pathologist would less often be called to the operating room to make a frozen section for the "rapid diagnosis," let us say, of breast tumors. The better trained surgeon knows the naked eye appearance of the benign tumors of the breast and their differentiation from the malignant. He also knows, for example, that adenofibroma of the breast is often a precursor of carcinoma, that not uncommonly an apparently innocent adenofibroma reveals evidences of cancer only after the microscopic examination of sections removed at different levels, and that the necessarily hurried and almost uniformly improper fixation of tissues for diagnosis by frozen section is dangerous. In fact, it was taught by Orth, I believe, that the only really safe method of excluding malignant changes in these circumstances is by serial section of the entire growth; and this, of course, is rarely practicable. Other examples could be multiplied beyond the reaches of this paper. Certain it is that the rapidly prepared frozen section reveals nothing of immediate worth that is not detectable by the properly trained naked eye at a saving of time which is valuable to the anesthetized patient. It is not to be understood that the naked eye interpretation of breast tumors and similar lesions is without its pitfalls; but the microscopic pronouncement of malignancy in rapidly prepared frozen sections, while it may impress the visitor to the clinic, is seldom of further value, although it does place a burden on the pathologist in the event of mistake; and this, from the standpoint of the surgeon, is not without comfort. However true all this may be, it is far from my remotest desire to decry the teaching of pathology by the use of tissues freshly removed at operation or by the observation of changes in the living body. The method is a splendid one, albeit of such limited application to general medicine that the internist who confines his inquiries in pathology to the peregrinations of the surgeon's elbow will find himself searching, as it were, for a pot of gold at the foot of the rainbow.

THE LAY PROFESSOR

In addition, however, to inadequate facilities for the teaching of pathologic anatomy, there are other defects to be found in certain American schools of medicine and all of them bear directly on pathology. For example, there are schools in this country in which the teaching of physiology and of physiologic chemistry is entrusted to men who have received no systematic training in medicine—masters of arts or doctors of philosophy or of science. The consequence is that the student is apt to gather the impression that these subjects are only remotely related to practical medicine —that they constitute a sort of mental hurdle to be leaped and left behind as soon as possible, not necessarily because the nonmedical professor in the medical school is lacking in abstract knowledge of the subject which he is delegated to teach, but because, in the absence of a broad training in theoretical and practical medicine, his sense of proportion, his appreciation of relative values, his perspective is ill adjusted to the remainder of the curriculum and to the labyrinth of medical problems beyond the classroom. Sometimes it happens, also, that the chair of pharmacology is filled by a man whose education does not include a composite training in medicine. In these circumstances the questionable propriety of selecting such a teacher finds little extenuation in the fact that pharmacology occupies a place of secondary importance in the curriculum. It is none the less strictly a medical subject and should be taught by medical men. Moreover, there are at least two representative schools in this country in which the chair of anatomy is filled by men neither of whom holds a degree in medicine. Both, it is true, are scholars of caliber. But anatomy, it seems to me, should be taught by some one who at every turn is able to point out to the student the application of anatomic facts to clinical medicine and surgery. At Guy's and, if I mistake not, in other London schools, anatomy is taught by men who are qualified for surgical rank. The benefits are manifest — the student receives practical instruction and the surgical staff is recruited from masters of anatomy. In an occasional American school the effort to effect a liaison between anatomy and surgery is attempted by special lectures; but, in the majority of teaching institutions, the interval is never bridged, and the student leaves the dissecting room in considerable doubt as to the application of the multitudinous facts which have been crowded on him. The teaching of embryology commonly is left to instructors few, if any, of whom are capable of vitalizing the intimacy between it and pathology, notably in the vast domain of tumors. The teaching of histology is all too often entrusted to an assistant with the alphabetical distinction of a bachelor's degree in arts or science, thus leaving another gateway to pathology guarded by an extramural sentinel. Small wonder is it that so many slip through who do not know the meaning of the structural differences between an artery and a vein—and how many times is just such apparently simple knowledge as this invoked, almost unconsciously it would seem, to help clarify the day's problems? Let

the teacher of histology confide to the student the merest intimation of the importance of the elastic tissues of the aorta in the genesis of aneurysm, and the association is likely to be stored away in anticipation of that day when his knowledge of aneurysm shall have acquired concrete form and practical significance. Otherwise, the student is tempted either to forget that the aorta has any elastic fibers or to wonder why Nature should have gone to the trouble of placing them there.

Then comes the course in pathologic histology—the pons asinorum of the curriculum, in crossing which the student wonders all the while by what extraordinary combination of circumstances the microscopic changes in diseased tissues could possibly have to do with the problems of bedside medicine. Later, he is taken to the museum and to him are demonstrated a number of relics, or, in the more highly favored schools, he is permitted to look on collections of discolored or partly decomposed viscera removed at necropsy a week before, and again he wonders why experience still leaves him in confusion.

In this wise it is brought about that in the the most impressionable years of his training the student is presented with subjects of enormous importance, but the presentation is made to him in such a fashion that he cannot fathom the relationship that they bear to one another or to clinical medicine. In New York State, to make matters worse, he is permitted at the end of the second scholastic year to take the licensing examinations in the elementary branches—anatomy, physiology, chemistry, etc.—passing which he feels that a yoke has been lifted from his neck and that, like other forms of suffering, he is now entitled to forget them and to seek elsewhere for happiness. Thus, he commences the study of the so-called practical branches almost completely bereft of that most valuable working asset of all—an anatomic conception of disease, without which the philosophy of medicine finds itself in constant conflict with the sophistry.

Moreover, the lay professor in the medical school seems disinclined to fill his assistantships with young physicians who, potentially at least, are better qualified to teach a strictly medical subject than is the head of the department himself and who, as they develop, promise to command no small degree of attention from the students. The student reasons that if these branches of medical knowledge, the import of which he has so often heard described in the superlative, are taught by men of academic training, then, indeed, there must be some element of exaggeration in the tales which have been brought to him of their ponderous value in practical medicine. Perhaps the argument is lacking in logic, but at least it has the merit of being human.

The danger does not cease here. The lay professor, himself realizing the necessity for correlating the teaching of his subject with that of the more strictly practical branches, too often yields to the temptation to trespass on that incidental knowledge which he has gathered in his travels with the medical caravan. In this way the student not uncommonly is misinformed at a period of development when his mind is receptive to impressions rather than capable of directive thought; and the eradication of mental weeds often is a far more difficult problem than that of their implantation.

Finally, it is significant not only that the lay members of the medical faculty, by virtue of their votes and influence, participate in shaping the policy of the schools to which they are accredited, but also that the destiny of the entire system of medical education is thus partially given into their keeping. Even now there are those physicians that profess to see in this an explanation of the present disposition on the part of certain schools to overemphasize the importance of laboratory procedures. This tendency, which is becoming more pronounced each year, appeals strongly to those faddists among whom any test which suggests an easy approach to the solution of any problem, or which promises a division or evasion of responsibility, is assured of a kindly reception. Whether its credentials are written in the language of science or in that of pseudoscience appears to make little difference. It panders to laziness, which is man's most easily accessible weakness.

THE GRANTING OF HIGHER DEGREES IN MEDICAL SUBJECTS

There are also those that see another menace reflected from the same source of influence. For example, several American universities are committed to the policy of granting higher academic degrees in pathology, bacteriology, psychiatry and other subjects whose application belongs wholly or largely to the field of medicine. Bacteriology in its commercial or agricultural aspects is an obvious exception. In one of the great American universities, the degree of Doctor of Philosophy is given in psychiatry and carries with it instruction to the effect that psychanalysis is applicable to the treatment of the feebleminded. It is a striking illustration of the fact that psychanalysis is a therapeutic explosive which is at once too valuable and too dangerous to be entrusted to amateurs in psychopathology.

CONCLUSIONS

1. Faultfinding, unless it be undertaken with a view to constructive suggestion, is at best, I presume, a doubtful virtue. In this paper I have ventured to register two complaints—one has to do with the selection of nonmedical men to teach medical subjects. The means of correction suggest themselves. It would tend to overcome the difficulty if the universities indulged in fewer architectural extravagances—if they exhibited less magnificence in the matter of buildings and more munificence in the form of salaries. The problem is one which strikes at the root of our system of university education, for, with the ceaseless expansion of industry, corporations are calling for trained men, and many respond who otherwise would elect an academic career, but who cannot sacrifice financial emolument to intellectual pursuits. For the same reason the medical schools cannot hope to attract and hold medical men as laboratory teachers at a wage which is incompatible with decent living, when consultations beckon with finger tips of gold.

2. The other complaint concerns the prejudice against using the bodies of the unclaimed dead for purposes of education by necropsy. The remedy is apparently one of legislation. The making or changing of anatomic acts is not an easy matter, although it is to be recalled that the older anatomists prevailed against odds which were terrifying, and our task would appear to be somewhat simplified by their accomplishments.

That state which countenances dissection of unclaimed bodies for educational purposes could not, without being inconsistent, deny the legalization of

necropsy on the unknown dead for the promotion of medical progress, although consistency in such affairs is a somewhat independable quantity. Assuming, however, that it would be practicable to reconstruct existing laws governing the distribution of the unclaimed dead, I believe that amendments should provide, among other things, that if a patient without friends or relatives requests that his body be not touched in the event of death, his wishes are to be respected. If the relatives of a person dying in a hospital or elsewhere are unable to provide for burial and request that the body thus left unclaimed be not touched, their wishes are likewise to be respected. If a patient be admitted to a hospital in an irrational or unconscious state and remain so, his body, in the event of death, although unclaimed, is to be untouched if for no other reason than that, in his last illness, the deceased was given no opportunity to express a desire as to the disposition of his remains. In addition, the law should make it more than ever mandatory on the hospital to exercise every precaution accurately to record the location of responsible relatives at the moment of the patient's admission, to investigate every available clue should the patient die, and to leave the remains intact if it be established that such relatives exist but are not accessible. In every case, at least forty-eight hours should elapse before the body is legally declared abandoned, and the hospital should be allowed to extend this limit if delay is deemed desirable in the interests of those who appear to have been forsaken in death.

THE TREATMENT OF PERITONITIS*

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After exhaustion or shock due to the condition for which operation is performed; after starvation from cancer or obstruction; after hemorrhage from perforating ulcers, etc., or following the physiologic disturbance produced by an operation itself—for instance, resection of the stomach, of the gallbladder, of the intestine, etc.—the most common danger incident to abdominal operations is infection. In civilian surgery, the principal sources of abdominal infection are the appendix, the gallbladder, the tubes, ulcers, or the operation itself; while in military surgery, infection may be due to missiles, clothing, or the contents of the hollow viscera—especially the last.

It follows that a consideration of methods of prevention and treatment of abdominal infection has a direct bearing on every type of abdominal operation. The scheme of treatment to be presented is based on a total experience in all types of operations of my colleagues Dr. F. E. Bunts, Dr. W. E. Lower and Dr. H. G. Sloan, my associates at Lakeside Hospital and myself, including 13,145 laparotomies among which are: 6,820 operations for appendicitis; 1,261 operations on the stomach and intestine; 1,289 gallbladder operations, and 2,837 operations on the female pelvic organs. By the general management to be outlined in this paper, our mortality in all abdominal operations has been decreased 33⅓ per cent.; in acute appendix operations alone, the reduction in mortality has been 67.6 per cent.

The presence of infection is readily determined by two characteristic groups of symptoms—general and local. The general symptoms—accelerated pulse and respiration, raised blood pressure, increased temperature and rapid loss of strength and weight—indicate the presence of some acid-forming activation. On the other hand, the local symptoms—pain, tenderness, distention, muscular rigidity, intestinal paresis, vomiting—indicate the protective response of the organism to the bacterial invasion—its effort to secure immobilization in order that the spread of the infection may be inhibited. This increased activation of the organism in its self-defense against the infection, and the acids formed by the infection added to those due to chronic disease, by so much lower the resistance of the patient.

The prime problem of abdominal infection, therefore, is the same as the prime problem of abdominal surgery in general—the reduced resistance and mounting acidosis of the patient.

These facts point the way to the two prime requisites in treatment: (1) the conservation of the remaining energy in the body against further depletion, and (2) the neutralization and elimination of the superabundant waste products. In the abdominal case in which immediate operation is not imperative, the vitality of the patient may be increased by obvious measures—diet, fresh air, and above all *rest and sleep*, until a favorable condition for operation is obtained.

In the soldier with perforated intestines, however, and in the starved civilian patient with partial obstruction, or with acute infection, operative measures cannot be postponed. In these cases the administration by rectum of a 5 per cent. solution of sodium bicarbonate with 5 per cent. glucose, and an immediate transfusion of blood may effect a sufficient restoration for the operation, or at least for the first séance of a two-stage operation under strict anociation—nitrous oxid-oxygen analgesia, local anesthesia, and the minimum amount of manipulation required to complete the operation; or in grave situations to make a sufficient anatomic adjustment to save the patient until an interim of rest and restoration has sufficiently increased his vitality to permit the performance of the second and major stage of the operation.

As for the technic of the operation, whether it be performed in one or two stages, whether it be the removal of an appendix or gallbladder, resection of the stomach or colon, removal of tumors of the ovaries or uterus, or, in the wounded soldier, the repair of intestinal rents or perforations, every step should be under complete anociation—nitrous oxid-oxygen anesthesia or analgesia, supplemented by ether only when it is necessary to secure increased relaxation during the exploration, procain infiltration, gentle manipulations and sharp dissection.

The essential points in the anociated treatment of abdominal infection, therefore, are:

1. Nitrous oxid-oxygen.
2. Anesthetized incision.
3. Accurate, clean-cut operation to diminish both infection and shock.
4. Adequate drainage.
5. Fowler's posture.
6. Vast hot packs over the entire abdomen, spreading well down over the sides.
7. Five per cent. sodium bicarbonate, with 5 per cent. glucose by rectal tap, continued as long as it is tolerated.

* Read before the American Association of Obstetricians and Gynecologists, Cincinnati, Sept. 17, 1919.

8. Primary lavage of the stomach, repeated only if indicated. (It will rarely be indicated if anociation is complete.)

9. From 2,500 to 3,000 c.c. of physiologic sodium chlorid solution administered subcutaneously every twenty-four hours until the period of danger is past.

10. Morphin hypodermically until the respiratory rate is reduced to from 10 to 14 per minute, and held to this rate until danger is past. It should be noted, however, that morphin is not useful in a streptococcus peritonitis.

By employing water, hot packs, and morphin, the surgeon can play the patient almost at will. The control of the drive, as marked by the changes in the respiratory rate in particular, is dramatic. Morphin lowers the respiratory rate, decreases the peristalsis of the intestines, reduces pain and secures physiologic rest and sleep, the prime means of recuperation.

Under this combination of the anociation of peritonitis with the anociated operation, my associate Dr. Lower and I have performed 409 consecutive operations for acute appendicitis with or without generalized peritonitis without a death.

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SUPERIMPOSED CAVITIES, THE POSSIBLE CAUSE OF CRACKED POT SOUND*

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Cracked pot tympany (bruit de pot fêlé of Laënnec) is so well known to clinicians that a special description is unnecessary. It was first called attention to by Laënnec about 1820, and in 1860 was so fully described by Walshe[1] that nothing has been added since. It is found over the following conditions:

Pulmonary cavities. Osler[2] says "only over tolerably large cavities with thin walls"; Fowler and Godlee,[3] superficial cavity with slightly yielding walls and free bronchial communication, the mouth being open at the time; Cornet[4] in Nothnagel's Practice, cavities, especially at the apex communicating by a narrow orifice with an open bronchus.

Pleural effusion (skodaic cracked pot, though ordinary tympany or hyperresonance is much more common).

Occasional cases of pneumonia when the consolidation is at its height.

Occasional cases of bronchitis, especially in children.

Normal lungs of crying children during expiration.

Cornet mentions relaxed or infiltrated or tuberculous lung, or open pneumothorax.

A similar sound can be produced by filliping the cheek with the mouth open, or striking the back of the hands, loosely folded across each other, against the knee, the contained air being forced out abundantly and quickly between the fingers at each blow, or by filling the hand with coins, shutting it tight enough to allow only a slight space for the coins to move, then shaking the hand.[5]

It is commonly thought that the larger the cavity, and the nearer to the anterior wall, the more likelihood of its production. Yet we often see cavities of the largest size immediately underlying the surface not producing it, so that these circumstances alone do not explain it. Walshe states that in a case showing it, it will cease to be produced if the mouth and nose be closed, though percussion will still show tympany. He contends that the fair interpretation of this fact seems to be that the sudden rush of air from the cavity outward, produced by the forcible blow on the yielding parietes in the ordinary open state of the mouth and nose, but completely prevented by their closure, is the real cause of the phenomenon. It has, therefore, been considered necessary for the cavity to connect freely with bronchi, thereby allowing the air in the cavity to be expelled freely and instantly. Yet we often find at necropsy large cavities apparently connecting freely with large bronchi without the sound having been produced (Case 439, U. S. Army General Hospital No. 17).

It has also been asserted that it depends on the collision of liquid and air in the cavity; but Walshe called attention to cavities which with fluid did not produce it and without fluid did produce it. In addition, in the case of filliping the cheek there is no fluid to explain it.

It is ordinarily stated, therefore, that the pathologic conditions producing it are a large cavity communicating freely with a bronchus, and relaxation of the pulmonary tissue.

Dec. 1, 1918, Case 296 at General Hospital No. 17 showed cracked pot in the first interspace near the sternum on the left with dulness to the fourth interspace. December 5, it showed ordinary tympany in the first interspace and cracked pot in the third interspace 1½ inches from the sternum. A diagnosis of two cavities was made. The roentgen ray, however, showed the appearance of four cavities, two superimposed on two others.

The possibility was suggested that the double cavity might have some influence in the production of cracked pot, and further cases were sought. Only one (Case 17) was found. This manifested cracked pot in the first interspace on the left, and the roentgen ray showed again the appearance of two cavities superimposed. This patient is still living.

Subsequent examinations of Case 296 revealed the cracked pot tympany sometimes in one and sometimes in the other of the two previously mentioned places and sometimes absent in both. For instance, December 14, there was ordinary tympany between the first and second ribs, and dulness between the third and fourth. When present, the cracked pot sound could be elicited both with the mouth open and with it closed, though more satisfactorily when open. Closing of the nasal passages was not tried.

December 30, this patient died. The necropsy disclosed not four cavities, but three, yet so situated that the first underlay the second and the second the third. The first extended from the apex to the second rib, the second from the first to the third rib, the third from the second interspace to the fourth rib. In other words, though only three cavities were present, they were so placed that in the two situations in which cracked pot sound occurred, there was a part of a cavity superimposed on another. On the strength of this finding, the conclusion was reached that the superimposing of cavities may, at least, aid in the production of cracked pot

* Read at the Conference of the Medical Staff, U. S. Army General Hospital No. 17, Markleton, Pa., Feb. 12, 1919.

1. Walshe: Diseases of the Lungs, Philadelphia, Blanchard & Lea, 1860.
2. Osler, William: The Principles and Practice of Medicine, New York, D. Appleton & Co., Ed. 8, 1917, p. 201.
3. Fowler and Godlee: Diseases of the Lungs, New York, Longmans, Green & Co., 1898 edition, p. 57.
4. Cornet in volume Tuberculosis Nothnagel's Encyclopedia of Practical Medicine, Philadelphia, W. B. Saunders Company, 1904, p. 424.
5. Babb, H.: Treatise on Diagnostic Methods of Examination, Philadelphia, W. B. Saunders Company, 1905, p. 158.

sound, and investigations were made by artificially introducing cavities into the removed lungs of animals.

It was found that percussion of two inflated bladders tied so as to prevent the escape of air, either introduced into an animal's lung, or placed over one another outside, gave tympany, but not cracked pot. In other words, communication with the air is evidently necessary; the mere rattling of cavities on one another is not sufficient. An open trachea was percussed both within and without the lung, and found to produce it, though not so typically as occasionally heard; two open tracheas, however, superimposed produced the sound exquisitely.

The application of these facts to its occurrence in pneumonia, above a pleural effusion, and in crying children, affords a more satisfactory explanation than the one usually offered, namely, relaxation of the lung. In pneumonia, the tissue is consolidated around the bronchial tubes, so that they act practically like superimposed cavities, sometimes open, sometimes occluded, only in the former event producing the cracked pot sound. Above a pleural effusion the normal lung is compressed about the bronchial tubes, and since there is no secretion to occlude them, the sound is very common, much more common, for instance, than in pneumonia.

An analogous condition prevails in crying children. Fluoroscopic examination reveals that if we exhale all the air possible and then cough several times, we can raise the diaphragm to the third and even occasionally the second rib, thereby compressing the lung to this extent. The effort of the crying child is practically entirely expiratory, producing a similar condition and one not unlike that above a pleural effusion. In addition, the bronchial tubes of the child are much larger in proportion to the lung space, and give the sound of cavity more evidently.

I have never heard it over pneumothorax, though I have examined and necropsied more than twenty cases, several of which (for instance, Case 210) communicated with the lung by large openings. Stanton[6] reports sixty-one cases without cracked pot ever being noted. With the idea of superimposed cavities in mind we would expect it only over a small pneumothorax communicating freely with the lung with a large cavity behind it.

2026 Chestnut Street.

6. Stanton: Fifth Annual Report of the Henry Phipps Institute, p. 231.

Importance of Rural Hygiene.—Over 50 per cent. of the population of the United States is rural. Therefore, what affects directly and importantly the residents of our rural districts affects vitally the strength of our nation. The reference to my breakfast of this morning illustrates the close and important connection between the residents of our urban centers and the sanitary conditions of our rural districts. Thousands of city residents visit the country every day for business or social reasons. The vast bulk of milk and other fresh foods supplied to our large cities are brought in from farm homes. Most of the cities obtain their water supplies from open streams or lakes which receive drainage from extensive rural territories. Through any of these media—persons, food, or water—and also by flies and mosquitoes, infection spread from insanitary rural premises may be conveyed to persons residing in the city. Thus the sanitation of the rural districts has a direct and important bearing on the health of the whole nation.—L. L. Lumsden, "Rural Hygiene," *Pub. Health Rep.*, Nov. 7, 1919.

A BACTERIOLOGIC INVESTIGATION OF AN OUTBREAK OF INFLUENZA IN AN INSTITUTION

THE INMATES OF WHICH WERE PREVIOUSLY FREE FROM THE INFLUENZA BACILLUS WHEN COMPLETELY VACCINATED WITH INFLUENZA VACCINE

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Director, Division of Laboratories and Research, New York State Department of Health
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The New York State Training School for Girls at Hudson, N. Y., is located on the southern outskirts of the city. The population of Hudson was 11,544 in 1915. It accordingly ranks as a third-class city. Early in the influenza epidemic in this country there was an outbreak in Hudson, but the quarantine that was immediately established at the training school was so rigidly and so effectively carried out that no cases of influenza developed in the institution. In order further to safeguard the inmates, all were vaccinated. A vaccine prepared by suspending in salt solution the growth of fifteen strains of the influenza bacillus (a vaccine prepared by the central laboratory at Albany, and one used generally throughout the state) was the vaccine used. Three doses containing 1 billion bacilli per cubic centimeter were given, a first dose of 0.5 c.c., and the second and third doses of 1 c.c. each.

A SUCCESSFUL QUARANTINE

At this time a bacteriologic investigation was conducted by bacteriologists from the research laboratory of Dr. William H. Park in New York City, in order to ascertain how many of the inmates harbored the influenza bacillus. The influenza bacillus was isolated from the throats of only three of the inmates, who numbered 461 in all. These bacteriologic investigations and the vaccination were completed, Oct. 31, 1918. The epidemic in the city subsided without any cases developing in the institution. It was not certain whether this was owing to the effect of the quarantine or to the complete vaccination of the inmates.

LATER OUTBREAKS OF INFLUENZA

During the latter part of December, 1918, however, there was an outbreak of influenza in the institution lasting through January, 1919. Unfortunately, it was not possible to secure bacteriologic investigations of the cases early in the outbreak, but later Miss Ella Hoppe of the laboratory staff was sent to the institution to take cultures from the nasopharynx in thirteen cases that had developed. The influenza bacillus was isolated from four of the ten vaccinated patients who were examined, and from two of the three unvaccinated patients. At the same time, cultures were taken from five persons who had been vaccinated but who had not developed influenza. These girls were in the cottage that had the greater number of cases. The influenza bacillus was isolated from one patient.

In February a second outbreak occurred, making the total number of cases, for the two outbreaks, 166 among the vaccinated, and thirty-seven among the unvaccinated. These thirty-seven had doubtless been assigned to the institution after October 31, when the vaccination of the inmates was completed. After the

second outbreak, nasopharyngeal cultures were taken from thirty-eight cases. No negative cases were reported until three specimens had been examined. The influenza bacillus was isolated from thirty-two of the thirty-eight cases examined. Thirty cases developed among the vaccinated, and from these the influenza bacillus was isolated in twenty-six. Eight cases developed among the unvaccinated, and the influenza bacillus was isolated in six of these. At the same time, cultures were taken from five persons who had been vaccinated but who had not developed the disease. Two cultures of the bacillus were isolated. Of the three negative cultures, one had been positive when control cases were taken in January.

RESULTS OF THE INVESTIGATION

The results of this investigation are thus of interest in demonstrating not only how much more effective and efficient quarantine is in the prevention of the spread of influenza than the use of an experimental preventive inoculation, the practical value of which is wholly indeterminate, but also that, with changing personnel, a rigid quarantine for a sufficient length of time should be maintained to insure against subsequent outbreaks. It is also considered of special interest to record the observations of influenza and the very general distribution of influenza bacilli during the outbreak without attempting to draw any definite conclusions from these isolated facts.

THE VENEREAL DISEASE DISPENSARY

INCLUDING A REPORT OF THE WORK DONE AT THE ILLINOIS SOCIAL HYGIENE LEAGUE DISPENSARY DURING AND SINCE THE WAR *

B. C. CORBUS, M.D.
Chief of Staff, Illinois Social Hygiene Dispensary
CHICAGO

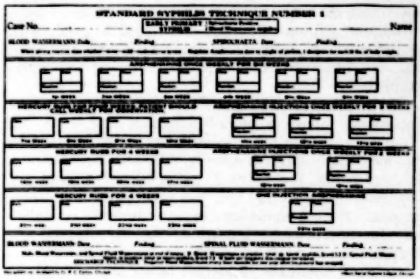
In the summer of 1915, a charter was applied for and obtained from the state of Illinois for the establishment of the Red League of Chicago, which is now known as the Illinois Social Hygiene League. A campaign was started immediately to enlist the aid of the general public in promoting the aims of this organization. In additon to popular education in social diseases (venereal diseases), their prevention and treatment were included in the objects of the league.

In order to ascertain the exact facilities of the Chicago dispensaries and hospitals for attending and housing patients with venereal diseases, a questionnaire was sent out, the results being compiled and published in a survey by Dr. Mary Lincoln of this city. Excepting a very few instances, both hospitals and dispensaries were found to be far below the standard that had been set for the dispensary of the league. It was the intention of the organization to open this dispensary in the spring of 1917, but war was declared and sufficient funds were not available until the following spring (1918.) However, during the first year of its activities, the league conducted an intensive educational campaign.

* Read before the Section on Urology at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

* Owing to lack of space, this article has been abbreviated for publication in THE JOURNAL. The complete article appears in the Transactions of the Section and in the author's reprints.

While at present the dispensary is giving treatment in new cases of discharged soldiers and sailors at the rate of about forty per month, these being referred by the American Red Cross and by the U. S. Public Health Service, and while this organization had entered the field some time before the Social Hygiene divisions of the Army and Navy were established,


STANDARD SYPHILIS TECHNIQUE NUMBER 1

Case No. ..... EARLY PRIMARY SYPHILIS ..... Name .....

BLOOD WASSERMANN Date ..... Finding ..... SPIROCHAETA Date ..... Finding .....

When giving mercury state whether mercury with methods or arsenic. Register Reinfections date of attack of syphilis; if dosage to be used in No. of bulk weight.

ARSPHENAMINE GIVEN WEEKLY FOR SIX WEEKS

No.	No.	No.	No.	No.	No. .....
Date	Date	Date	Date	Date	Date .....

MERCURY GIVEN FOR 6 WEEKS ..... ARSPHENAMINE ..... GIVEN WEEKLY FOR 6 WEEKS

Date	Date	Date	Date	Date	Date .....

MERCURY GIVEN FOR 6 WEEKS ..... ARSPHENAMINE ..... GIVEN WEEKLY FOR 6 WEEKS

Date	Date	Date	Date	Date	Date .....

MERCURY GIVEN FOR 6 WEEKS ..... and ARSPHENAMINE .....

20th week	21st week	22nd week	23rd week .....

BLOOD WASSERMANN Date ..... Finding ..... SPINAL FLUID WASSERMANN Date ..... Finding .....

Note: Blood Wassermann and Spinal Fluid Wassermann at end of treatment, if positive, repeat at monthly intervals. Spinal Fluid Wassermann should be negative before discontinuing treatment.

Date completed ..... PATIENT'S ..... Address .....

Fig. 2.—Schedule of treatment in early primary syphilis. The original card measures about 5 by 8 inches.

the formation of these efficient bodies supplanted our work, in part, during the period of the war.

However, from the first, the civilian educational propaganda has continued, and it has been most active since January 1 of this year. During that month, the objects of the league were communicated to 5,000 different employers of labor, by means of a series of letters, three in number. Since then, the dispensary superintendent has given twenty-six lectures reaching a total of 9,550 persons at hotels, lodging houses, Y. M. C. A. buildings, and industrial plants. More than 16,500 pamphlets were distributed at these lectures, making a grand total of 113,500 pieces of literature distributed, so far, by the league. At the present time, the requests for talks and pictures are so numerous as to tax the strength of our staff severely.

The films "Fit to Win," "The End of the Road," and "Open Your Eyes," which originally were prepared for the U. S. Public Health Service, are being used and exhibited to excellent advantage. The first showing of "Fit to Win" and an explanatory lecture, at the employees' club house of the great McCormick Reaper Works to an audience of 500, brought such an enthusiastic response from both the officers and men of this concern that ten successive showings were arranged for at the same place, in order to bring the facts before every one of the 9,000 employees of the firm. As a result, arrangements were made to place 100 framed dispensary notices in as many washrooms of this great plant.

More than 1,200 dispensary notices have been placed in sixty of the largest department stores and industrial plants, including the Illinois Steel Mills; Hart, Schaffner & Marx; the great packing plants; the stockyards; bakeries, and so forth. Nearly every Y. M. C. A. building has a display. In addition, there are permanent exhibits, each comprising a set of twenty-four framed pictures, at the city hall comfort station and in twenty-four of the big industrial plants. Framed posters are being exhibited in washrooms in scores of shops and factories.

DISPENSARY ORGANIZATION

The Civilian Drive.—Having familiarized themselves with the venereal situation as it existed in the armies and among the civilian population of the United Kingdom, the directors of the league decided to concentrate their interest and activities in an effort to put into effect the venereal disease program as outlined by the Advisory Board to the Surgeon-General in relation to these diseases among the laity. Therefore, being convinced that the time had arrived to fight venereal disease openly, in the civilian population, they equipped and established the first dispensary of the Illinois Social Hygiene League, at 118 West Grand Avenue, Chicago.

Since the program of the league is not only a medical one, but affects the social and the economic life equally, the public was invited to join and contribute to the work of the organization. From May 1, 1917, to May 19, 1919, 436 members have made contributions to the expenses of the league.

The Dispensary Staff.—Eleven specially trained physicians are now on the staff of the Illinois Social Hygiene League. Of these, three are women who treat only women patients and young children. Several other physicians, at present, are receiving instruction and training; and their number will be increased as rapidly as an increase in the available space can be secured, as it has been found unwise to hold clinics crowded by both patients and medical men receiving instruction.

With a view to increasing the interest and the efficiency of the staff members, it was decided from the beginning to pay each attending physician a fee of $5 for each period of attendance. Thus, if a staff physician serves in the clinic for three weekly periods, he receives about $60 per month. This principle of remunerating physicians for their work in the clinic has proved highly successful, and the staff members are rarely absent from the clinics.

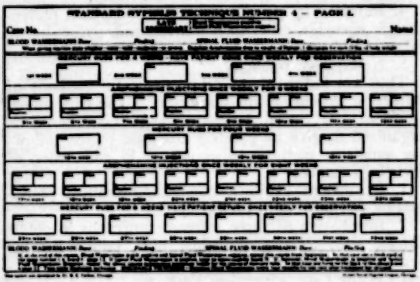


Fig. 6.—Schedule of treatment in late secondary syphilis, page 1.

The chief of staff is not paid for his services, nor are the physicians in training and the occasional volunteers. A social worker is paid by the Chicago women's clubs. Besides the superintendent, there are two clerks, as much of the superintendent's time is being devoted to educational work which soon will include the supervision of a second, or branch dispensary in the stockyards district. A laboratory was established recently with one technician in charge.

All staff members are required to sign a medical ethics standard.[1]

Improvements in Dispensary Practice.—Some of the things that have been accomplished in our work are as follows:

Frequent meetings of the medical staff to discuss details of treatment.

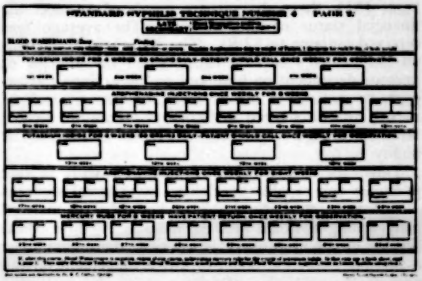


Fig. 7.—Schedule of treatment in late secondary syphilis, page 2.

The development of a standardized technic of examination and treatment for syphilis; also a definite discharge technic.

The development of a standardized technic of examination and treatment for urethritis; also a definite discharge technic.

A plan of study of case records.

The evolving of a new social service record and the securing of a social worker for women patients.

Separation of syphilis and gonorrhea clinics; also of clinics for men and women.

The appointing on the staff of women physicians for women and children patients.

The devising of new medical charts and history cards calculated to secure the greatest possible efficiency in history records.

The reducing of the business management, the collection of fees, and the soliciting of funds to an efficient basis.

Equipment.—Being located in the north central section of the Chicago business district, the dispensary is easily accessible. It occupies a two-story building, the first floor being used by the executive staff, with private telephone communication to the dispensary operating room. In addition, there is a private reception room for women.

On the second floor, there is a large waiting room, well furnished, with attractive pictures on the walls; also a cystoscopy room, a women's treatment room, an irrigating room, and the laboratory. Most important of all is a room, fitted with a comfortable bed, where the patients may remain several hours after having undergone a spinal puncture.

The dispensary periods last from one to three hours according to the number of patients calling for treatment. There are fourteen weekly clinics held, covering separate syphilis clinics for men and women; separate genito-urinary clinics for men and women; all groups of clinics being served by one nurse.

The hours at which clinics are held are arranged suitably for working people; namely, early morning

1. This appears in the author's reprints.

hours for night workers, evening hours for those who work during the day, and noon hours for working women. The clinics are held for charity patients and for those who pay a fee for services received. Such a mixed clinic has been proved quite feasible and successful in actual operation. While certain relatively high fees are charged for arsphenamin treatments ($5), for Wassermann tests ($5) and for spinal punctures ($5), these charges are regulated to meet the financial status of the patients. The average fees received amount to $2.50. The fee charged depends on the patient's earning capacity, on the number of persons dependent on him, and on his savings. However, no patient is turned away because of lack of means, and discharged soldiers and sailors are treated free of charge regardless of their willingness or ability to pay.

Thus, there is no real competition with private practice; for capable specialists in venereal diseases charge fees far beyond the pocketbooks of married men earning less than $100 per month. As the medical service in the dispensary is salaried, there cannot be a possible exception taken to this arrangement on the part of the medical profession.

An excellent feature of the system of the dispensary is that the physicians and the nurse have nothing to do with the collection of the patients' fees, this being attended to by the lay clerical and social service staff under the direction of the superintendent. Therefore, the staff members are obliged to treat pay patients and charity patients with the same care and efficiency.

It is of interest to note that, during the first year of operation, the dispensary received $4,300 from patients, nearly $3,000 of which was paid to the medical staff.

Records.—The card system of records in use in the dispensary is unique in some respects. The medical and social service histories are kept on separate cards

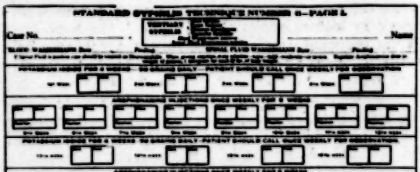


Fig. 10.—Schedule of treatment in tertiary syphilis, page 1.

but in the same folder, thus automatically providing for an effective follow-up system of delinquent patients and, at the same time, a record of fees paid and owed. A signal system indicates at a glance what cases have been discharged within the month. A separate discharge slip of distinctive color, which *must* be filled out and signed by the last physician on the case, is attached to the record and contains the discharge record, the technic of which must be carried out carefully; otherwise the superintendent will return record and patient to the physician.

The record system is so arranged that all of the facts of statistical importance are easily and quickly summarized. Our state and city departments of public health require complete records, which are furnished promptly. Reports also are made to previous medical attendants. Finally, the records permit ready arrangement for the purposes of clinical study.

The follow-up system, referred to in the foregoing, assures the constant and regular attendance of the

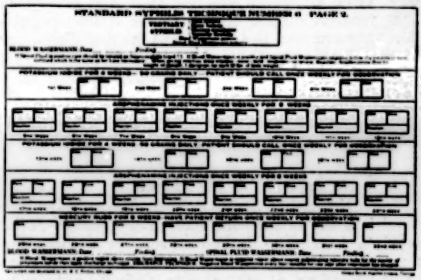


Fig. 11.—Schedule of treatment in tertiary syphilis, page 2.

patients. If these are neglectful, they are reported to the department of health.

Most of the drugs required for treatment are supplied to the patients, and no extra charge is made for them except in the case of mercury rubs, for which a week's supply calls for a payment of 50 cents. Occasionally, however, a prescription is written that must be filled at a drugstore.

Clinical Material.—The patients come to the dispensary largely from these sources, named in the order of their importance:

1. Exhibit, public comfort station at the city hall.
2. Referred by patients or former patients.
3. Signs in washroom in shop or factory.
4. Referred by private physicians, hospitals, philanthropic agencies, other dispensaries, and, surprising to relate, by druggists.
5. Newspaper publicity.

Thus are indicated the most successful methods of attracting patients to the dispensary. The educational work of the Social Hygiene League is, therefore, organized to give its greatest attention to the following publicity methods, also named in the order of their importance:

1. Permanent exhibits, comprising framed photographs and posters in public places.
2. Installation of three stereomotorgraphs in public places, such as the municipal pier, public bathing beaches, amusement resorts conducted by private capital (White City, Riverview Park, etc.).
3. Dispensary notices and posters in washrooms of shops, stores and factories.
4. Newspaper publicity.
5. Lectures illustrated with slides and films, at which literature is distributed.

Safety in Industry.—Employers and state and federal departments and safety organizations are working for the decrease of danger. But it can never be entirely abolished. When the machinery is as safe as it can be made employees still cause injury to themselves and to others by carelessness or blundering.—Wright, "Industrial Nursing."

THE EARLY DIAGNOSIS OF SYPHILIS

AND A COMPARATIVE STANDARDIZATION OF THE TREATMENT*

E. B. TAUBER, M.D.
CINCINNATI

In the problem of syphilis it is imperative to secure an earlier and more efficient diagnosis of the disease than is the case at the present and a more generalized effective treatment. This should be the keynote of our endeavors.

The early diagnosis of syphilis is an unknown quantity to many men who are practicing medicine in our times. To men who have the older ideas of the disease to guide them, ideas that are firmly planted in their minds by a couple of decades of practice, it seems almost sacrilege to insist that waiting for secondaries is a criminal action and that we lose the benefit of the one psychologic moment in the life history of syphilis when we can seize our real opportunity.

The definite diagnosis in the early primary stage before the spirochete has spread to the lymphatic system near the primary lesion and before the serologic reaction is positive is the one and only time that, taken advantage of, may lead to success; and it is the time for action instant and effective. This is the time for radical cure if such is possible. An injection of arsphenamin here can put an immediate end to infectivity of the case. A sterilization complete and entire seems possible here. The suppression of the biologic and serologic evidence of the disease is possible and maybe probable here. This should be our treatment for paresis, tabes dorsalis, iritis, etc.

PROPHYLAXIS OR TREATMENT THAT WILL PREVENT THESE CONDITIONS

The first week or so of the initial lesion, while syphilis is still a local condition, is the time that we should employ every energy and endeavor of our diagnostic and therapeutic armamentarium to cure, for never again in the picture of syphilis for the individual patient or the state will this moment return.

Our public health services, medical colleges, hospitals, and clinics must teach this point and ever impress it on all in contact with them; that is, the student groups, the nursing groups and the public in general, these facts and necessities.

The dark field examination must be a routine at the clinics, in the hospitals and in our private practice. The organism must be known and recognized by all.

The newer staining methods, such as the Medalia method, must be taught generally. There can be no valid objection to teaching the profession of the future and the present the only means of diagnosis for the period when the dangerous sequelae may be mastered and dominated by us.

Every sore, whether on the genitalia or elsewhere, is or should be open to a suspicion of chancre and should be repeatedly examined for *Spirochaeta pallida*. Every papule, nodule, crack, excoriation, and herpetic or other erosion should be viewed with the possibility of an initial lesion and should be examined for *Spirochaeta pallida*. Chancroids should not be accepted as uncomplicated with syphilis; double infection is always possible.

Antiseptics applied, especially mercurials, make the finding of *Spirochaeta pallida* difficult or almost impossible; and because of this we should teach that no mercurial dressings, or better still, no antiseptics, should be applied to any lesions until the examination for *Spirochaeta pallida* has been made, and if any have been used, it should be made a routine to irrigate thoroughly with physiologic sodium chlorid solution and to apply a wet dressing of the solution for twelve hours or more before examining for *Spirochaeta pallida*. To obtain *Spirochaeta pallida*, a definite method is important. We have used in the Cincinnati General Hospital this method:

The surface of the lesion is wiped with a cotton sponge to remove superficial organisms. The wound may be rubbed or teased lightly, but one should not cause bleeding; just an oozing that will give serum to transfer to a new clean slide and slip should be produced. Immersion oil is put on both the under surface of the slide and upper surface of the cover. This will give a continuous airless medium from dark field to objective. A focus with fine adjustment should be secured until one gets a dark background with the glistening moving particles in white rings. Then a search for the twisting spirochetes may be instituted.

As a professional body, let us be honest and acknowledge we have not spread the vital importance of early diagnosis. It has taken a world war to impress on us that the modern conceptions of syphilis have not been taught in our medical colleges. We have zealously striven to whitewash the episodes occurring in the wrecks due to this disease. We have had clinical characteristics and endless discussions as to secondaries and tertiaries and neurosyphilis; forgetting that we were proving our guilt in this very manner; and now we must scrap our clinical differences and turn to laboratory diagnosis to the finding of *Spirochaeta pallida*. I do not mean here the serologic diagnosis, for then we are losing our great opportunity.

TRAINING THE PROFESSION TO EARLY DIAGNOSIS

How can we create this? This is our tremendous duty. You must all aid this. We must aid all the men who will do dark-field work in the smaller towns and villages and show them and others by our support that we are back of them. The internists, the surgeons of the smaller localities must call on the man in that locality who has special knowledge of syphilis, and this will cause the demand to be supplied. We must send to Coventry the man who cauterizes or applies some medicament to the sore on the penis or other location before advice, and competent advice at that, is given and the dark-field tests are made.

In early syphilis, systematic treatment must be immediate and must be pushed vigorously; sledge hammer treatment here is indicated, not feather duster types of treatment. Syphilographers will doubtless agree that the effective time for arsphenamin is early, before the serologic tests are positive. So, then, this places on us the burden of outlining a method or schema for treatment that shall be more or less standardized. Here I mean a treatment for the majority of cases, not for individual ones; also a treatment that will not be inflexible but one that has been tried over a long period of time in a sufficient number of cases to at least have the merit of being successful. The

* Read before the Section on Urology at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

outline I wish to submit has been tried at the Cincinnati General Hospital, the outpatient dispensary, the night venereal clinic and in my private practice, all of which I have under my control, and our results have been very good. Our method is as follows:

A SUCCESSFUL METHOD OF TREATMENT

Courses of from four to six intravenous injections of arsphenamin of from 0.3 to 0.6 gm. at intervals of from three to seven days are given, combined with mercury. Here we may with one or two such courses effect a cure. But even with such vigorous treatment a second or third course of arsphenamin of the same type is advisable after a two months' interval, given with the same courses of mercury.

In all cases, after the Wassermann test is positive, I believe at least three such courses of both arsphenamin and mercury to be the minimum, and more can be given as indicated. I believe that mercury, given either by intramuscular injections of soluble or insoluble preparations or by rubs, is of great aid to our arsphenamin therapy, and in the rational cure of syphilis, mercury and arsphenamin must be combined.

The courses of mercury should be from ten to twelve injections, at weekly intervals, of an insoluble; or from twenty-four to thirty, given every other day, of a soluble, or thirty to forty daily inunctions. I myself believe in giving one course of each type of mercury with each course of arsphenamin. Serologic tests should be made once a month at first, and later at two month intervals, until the test seems to become permanently negative as shown by at least five unbroken negative tests, each six months apart, with no treatment and no clinical evidence of syphilis before we should become in the least optimistic in regard to the case as being checked or cured.

It is my opinion that provocative injections and spinal puncture with the colloidal gold test may be made; but there is a difference of opinion as to this need, except in cases that require these special methods.

In late syphilis, mercury and iodids should be pushed in courses with arsphenamin given in the same way.

In secondary syphilis, the first year, three courses as above outlined of from six to eight doses of arsphenamin in each course, combined with mercury, and not less than three of such courses are indicated.

The second year, if the Wassermann test remains positive or there is recurrence of any lesion, practically a repetition of the first year's treatment, as outlined, will be necessary.

If the Wassermann test is negative and remains negative and there is no recurrence of lesions, at least four doses of arsphenamin in conjunction with two courses of mercury are recommended.

The third year, if the Wassermann test remains negative and there have been no recurrences from the first year, a patient should pass into a period of observation with regular periods for a serologic examination. If there is any nerve involvement or tabes and paresis, the treatment will depend on the individual case and will be covered by any general methods; but treatment must be pushed for years.

Congenital or hereditary syphilis requires longer and more persistent treatment; but again more individual treatment is necessary and cannot be outlined in the same way that early acquired syphilis can be. To recapitulate, my outline is as follows as regards standardization for early syphilis:

Arsphenamin and mercury to be given combined.

Arsphenamin, each course from four to six doses of from 0.3 to 0.6 gm. intravenously at three to seven day intervals.

Mercury (insoluble), gray oil, mercuric salicylate, twelve doses at weekly intervals, dose from three to five minims.

Mercury (soluble), twenty-four to thirty injections of mercuric cyanid or mercuric chlorid, given every other day.

Rubs, twenty-four to thirty given every day.

First Year.—First course of treatment, from two to two and one-half months. Rest, one month. Second course of treatment, from two to two and one-half months. Rest, two months. Third course, from two to two and one-half months.

Second Year.—If Wassermann is negative, rest after third course for four months; mercury, two months; rest, four months; mercury, two months.

If Wassermann is positive, rest, two months; course of arsphenamin and mercury, two months; rest, two months; arsphenamin and mercury, two months; rest, two months; arsphenamin and mercury, two months.

Third Year.—If Wassermann is negative, patient passes to period of observation with regular serologic examinations.

If Wassermann is positive, rest after last course, two months; arsphenamin and mercury, two months; rest, two months; mercury course, two months; rest, two months; arsphenamin and mercury, two months, and so on, being controlled by serologic findings.

It is not easy to state when a cure is accomplished; but, in general, we can only say, by intensive therapy safety can be secured and in most cases a cure can be effected. This may result in overtreating in some cases, but it is better to err in this way than to undertreat a single one, and some cures require a definite amount of treatment on a definite basis, if the needed results are to be obtained. Therefore, before patients are told they are well, even after repeated negative Wassermann tests without treatment (for negative Wassermann tests during treatment only indicate that progress is being made), I consider it necessary that at least two or three years of negative serologic tests without treatment or recurrence of any symptoms indicative of syphilis shall elapse before we can even say that we think the pathologic condition is eliminated. In so brief a paper I could cover only majority cases, and no attempt has been made as regards treatment or outline for individual cases.

CONCLUSIONS

1. No single sign of improvement should be accepted as definite or final, and treatment should not be stopped at such indication. Only cessation of all around symptoms is indicative, and that only if it continues through years.

2. Arsphenamin therapy is necessary, since it controls infectivity and contagion. It yields quick results.

3. Mercury is essential but as a splint to our arsenic therapy and as an aid to permanence in cure.

4. Most syphilis is undertreated. Sledge hammer blows are indicated. Overtreatment is to be preferred to undertreatment.

5. It is better to be overconservative rather than optimistic in stating that a cure has been effected. Our modern therapy is still in too infantile a stage to justify anything but overconservatism.

I believe that specializing and efficiency tendencies can be obtained, and very ably, in the treatment of syphilis.

Hospitals and clinical centers in our larger cities can be used by smaller centers. The extension of wartime methods in the army to civil practice will and should come.

In a few words, I believe syphilis is as easily preventable as other infectious diseases. With syphilis an actual condition, it must be recognized early and treated early if its economic results are to be prevented. Thus our problem is early recognition and early treatment. The early period is its period of greatest transmission; also the period in which our chances of curing a patient are greatest. This places the burden squarely where it belongs, on us, the medical profession, and also on the public health service, medical schools, hospitals and clinics. These different agencies must individually disseminate knowledge, acquire competent teachers, and adequate equipment to give adequate treatment and to graduate competent physicians. This means that syphilis needs centralization, efficiency, control, and the teaching of the early diagnosis of syphilis and a comparative standardization of its treatment.

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UROLOGY IN THE UNITED STATES NAVY *

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The most important problem which presents itself to any one in charge of groups of individuals, civilian or military, is the maintenance of the good health of such persons. It has long been recognized that it is much more economical and, in fact, much easier to prevent certain diseases than to cure them. Smallpox, typhoid fever and last, and probably most important, venereal diseases are the most spectacular representatives of this group.

The urologist, serving with the United States Navy in the world war, was occupied to a certain extent with so-called major urologic problems, such as instrumentation (cystoscopy, endoscopy, etc.), and major and minor operations. His most important duties, however, were concerned with the prophylaxis and treatment of venereal diseases.

VENEREAL DISEASE IN U. S. NAVAL HISTORY

One examines the history of prophylaxis against venereal diseases in the United States Navy with a certain amount of pride. Admiral W. C. Braisted,[1] Surgeon-General of the Navy, said in his last annual report:

> The medical department of the Navy began fifteen years ago to apply prophylactic measures against venereal diseases, and since that time has steadily broadened its campaign into a well-rounded program for the prevention and control of these diseases. In addition to purely medical measures, an increasing amount of attention has been given to the moral and educational phases of the problem.
>
> As individual opinions vary widely as to what steps may be properly undertaken to promote upright living and prevent the incidence of venereal diseases, and as there may be some misconception in regard to the attitude of the Navy in this matter, it seems fitting to outline the position taken by the bureau. Medical officers, both afloat and ashore, are charged with the duty of warning all persons in the naval service and particularly the newer, younger men, of the danger of acquiring venereal disease through illicit intercourse, and of the serious consequences of such disease. In the instruction given on health and personal hygiene they are required to emphasize the sin of impurity and the necessity of pure living for the fullest enjoyment of health and happiness and the best and most loyal service to the country.

As far back as 1905, a method of venereal prophylaxis was recommended for general use in the U. S. Navy by Medical Inspector Oliver Diehl.[2] Various methods of conducting the prophylaxis were instituted during the succeeding five years, reports of which were rendered from time to time. Surg. Raymond Spear[3] rendered an interesting report:

> In 1905, while the U. S. S. *Baltimore* was on the Asiatic Station, preventive treatment was given the men after their return from liberty, with the result that although the ship visited the ports of Sydney, Melbourne and the Auckland for a month each, there were practically no venereal cases on board, and the crew was "clean." This happy state of affairs was brought about by an intelligent commanding officer, who aided the medical officer in all his recommendations. The English ships which were in these ports at the same time as the *Baltimore*, in most cases, had over 25 per cent. of their crews infected with some sort of venereal disease; so the nonexistence of venereal disease on the *Baltimore* was due to the preventive treatment entirely.

P. A. Surg. W. J. Zalesky,[4] while stationed in New Orleans, in 1908, instituted a system of prophylaxis. Of his experience there he said:

> The personnel of the station consisted of eighteen sailor men and about sixty-six marines. During the fall of 1908 the men were given several talks as to precautionary measures, and urged to apply for prophylactic treatments at the yard dispensary. For three weeks following, twenty-three men applied for such treatments, but gradually the number of applicants declined, the men losing interest in the treatments. During these three weeks, no venereal trouble broke out, and with the decline of applicants the venereal cases again increased. Liberty was freely granted, the limits of the station ended nowhere. Under these conditions, control of the men was necessary, and in endeavoring to impress on them the importance of prophylactic treatments, the aid of the commanding officer was sought. The interview with this officer resulted in the publication and posting of the following order:
>
> 1. Men who have had intercourse or have been exposed to venereal infection in any way will report immediately on their return to the barracks to the medical officer or his assistant on duty, at the sick bay.
>
> 2. It is important that men so exposed report for a preventive treatment at least twelve or eighteen hours after contact, as a delay in treatment is less likely to prevent disease.
>
> 3. Men will be examined at frequent intervals by the medical officer, and any man found concealing venereal troubles will be reported to the commanding officer.
>
> 4. No reports are entered on the sickness and disability sheets of the enlistment records in carrying out preventive treatments.
>
> 5. Men are informed that by reporting promptly and cooperating with the medical department in receiving preventive treatment they stand little chance of contracting venereal diseases and keep their body, record and surroundings clean.
>
> Signed.....
> Captain....., U. S. M. C.
> Approved: Commanding Marines.
> .....Commandant.

* Read before the Section on Urology at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

* Because of lack of space, this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section and in the author's reprints. A copy of the latter will be sent by the author on receipt of a stamped addressed envelop.

1. Braisted, W. C.: Annual Report, Surgeon-General U. S. Navy, 1918, p. 172.

2. Diehl, Oliver: Venereal Prophylaxis on the Asiatic Station, U. S. Naval M. Bull., July, 1910, pp. 325-337.

3. Spear, Raymond: The Prevention of Venereal Diseases in the Navy, U. S. Naval M. Bull., April, 1910, pp. 146-150.

4. Zalesky, W. J.: Venereal Prophylaxis, U. S. Naval M. Bull., January, 1910, pp. 28-35.

At the time that the order was published, all men were examined and carefully instructed as to the intentions of the order. During the first month after publication of the order, fifty-six out of sixty-six men took the preventive treatment, with no developing venereal trouble. This good record has continued, as I have been advised that up to September 1, following over 500 applications of the treatment, not a single case of venereal disease has developed or been detected on that station for the past five months.

PROPHYLACTIC METHODS NOW IN FORCE

The Reports on Venereal Prophylaxis[5] made by P. A. Surg. W. S. Pugh; Jr., P. A. Surg. W. A. Angwin, P. A. Surg. N. T. McLean, Medical Inspector J. M. Edgar, Surg. J. S. Taylor and P. A. Surg. F. G. Abeken were published in the *U. S. Naval Medical Bulletin* for April, 1910, and on every ship the results were so excellent that prophylaxis became general throughout the entire navy. Below is a description of the method in practice.

The following direct orders were given to the crew:

1. Liberty will be given daily from 1 to 5:30 p. m.; on Sundays, from 9:30 a. m. to 5:30 p. m. Chief petty officers have liberty until 10 p. m. This applies to Central American towns.

2. All men who have been exposed to venereal disease will report at the sick bay and be given prophylactic treatment.

3. Those men who have not reported and then develop venereal disease will be punished for disobedience of orders.

4. A member of the hospital corps will be on duty for supervision of the treatments from 4 until 10:30 p. m., and from 7 to 9 a. m.

Immediate Precautionary Measure.—It was recommended to the men to use tablets of mercuric chlorid ashore directly after intercourse, and I have learned that a number of them did so.

Preventive Treatment in the Sick Bay.—The subsequent preventive measures to be taken in the sick bay, in guarding against infection, are these:

1. A thorough cleansing in hot soap and water must follow urination.

2. The external genitals are washed with a 1:1,000 mercuric chlorid solution. (Despite the experiences of others, I have never seen this strength produce irritation).

3. An injection of 2 per cent. protargol is given, about 5 c.c. being used. It was found in the use of this injection that the great difficulty was in getting the men to hold it five minutes, to do so, apparently, being too much trouble. To overcome this difficulty and have some of the solution retained, even if only for one minute, I decided to add 20 per cent. of glycerin to the solution. This did not prove to be an extra irritant, and it made the substance adhere, even when held only for a few minutes. I later found 15 per cent. of glycerin to be sufficient. The injections, in all these cases, were supposed to be held for five minutes.

4. Following the injection, calomel ointment (Metchnikoff's formula) was used. When first starting our crusade the foregoing ointment was made up with equal parts of benzoinated lard and petrolatum as a base, but experience demonstrated that equal parts of lanolin and petrolatum were more tenacious, and had greater penetrating powers; so at present the latter combination is used. After the penis is thoroughly dried, this ointment is spread over its entire surface, from the external meatus to the root at the symphysis pubis. It is then thoroughly rubbed in and left on for two hours. A number of men have left it on all night with no evil effects.

Medical Inspector Oliver Diehl tabulated for the Asiatic Station the data which appear in Tables 1 and 2.

5. Reports on Venereal Prophylaxis, U. S. Naval M. Bull., April, 1910.

The figures in Tables 1 and 2 are for the entire year of 1909. During the last six months, the cases of venereal disease have been further classified thus: The total number of cases during this period was 373, of which 246 were gonorrhea; 108, chancroid, and 19, syphilis. They are subdivided, with reference to cause, as is shown in Table 3.

The number of men reported here as going on liberty, 70,954, does not include every man. But it

TABLE 1.—RESPONSE OF MEN TO PROPHYLACTIC TREATMENT

Classification	Number	Per Cent.
Men who went on liberty	70,954	100.0
Men who reported on return from liberty	65,635	92.5
Men who failed to report on return from liberty	5,319	7.5
Men who admitted exposure and received treatment	21,105	32.2
Men who denied exposure	44,489	67.7
Total number of primary venereal admissions during 1909 (gonorrhea, chancroid or syphilis)	860	
Percentage (based on number of men going on liberty)		0.84

covers most of the liberty given by ships during the year, and the number (exceeding the average strength of the Navy and the Marine Corps) is considered sufficiently large to serve as a basis for a fair estimate of the value of the scheme.

Dr. Diehl calls attention to the prevalence of venereal disease in the navy in these words:

The extent to which venereal disease has caused damage to the service may be gathered from the following: In his last annual report, the Surgeon-General gives the following

TABLE 2.—TOTAL NUMBER OF CASES OF VENEREAL DISEASE (FIVE HUNDRED AND NINETY-NINE) CLASSIFIED WITH REFERENCE TO THE PROBABLE CAUSE OF DEVELOPMENT OF INFECTION

Probable Cause of Development of Infection	No. of Cases	Per Cent.
Failure to report	113	18.86
Denial of exposure	85	14.19
Overstaying liberty	85	14.19
Extended liberty	140	23.37
Failure of treatment	176	29.38
Failure of treatment (based on total number of men admitting exposure)		0.83

as the number of admissions in the entire Navy and Marine Corps during 1908: gonorrhea, 3,015; chancroid, 665; syphilis, 1,001; total, 4,681. This, based on the average strength, which is given as 50,984, makes a ratio of 91.8 per 1,000. The venereal admissions constituted 17.76 per cent. of the total admissions for all diseases, and caused a total of 106,526 sick days. In his report for 1907, it was also stated that if applied to the force afloat, venereal disease alone

TABLE 3.—PROBABLE CAUSES OF DEVELOPMENT OF INFECTION IN SIX RECENT MONTHS

Probable Cause of Development of Infection	Gonorrhea	Chancroid	Syphilis	Totals
Failure to report	48	13	5	66
Denial of exposure	23	17	3	43
Overstaying liberty	33	10	..	43
Extended liberty	70	30	6	106
Failure of treatment	72	38	5	

would have operated to render entirely inactive for over a month three battleships with a complement of 1,000 officers and men each.

From these early experiences, the present method of venereal prophylaxis has evolved and has become general, not only in the Navy but in the Army as well; and a decided effort is now being made to have the civilian population receive the benefits of the valuable lesson learned in the various branches of the service.

At the present time, the men in the Navy are given systematic education on the subject of venereal dis-

ease, personal hygiene and the high value attaching to continence. By posters on shipboard and at training stations, by moving picture exhibits, by lectures and informal talks, everything possible is done to create proper sentiment on these topics as well as to warn against the danger of venereal infections. Men returning from liberty after incurring the risk of infection are urged to avail themselves of prophylaxis, for which facilities are provided at the sick bay under a trained attendant. They wash the genitalia with soap and water. Protargol, in a strength of from 0.5 to 2 per cent. is then injected into the urethra and held for a period of at least five minutes. Thirty per cent. calomel ointment is then rubbed on the penis and left on all night.

Men who contract a venereal disease are reported for misconduct and isolated. This means that they lose their pay until they become noninfectious.

Syphilitics have the subjoined abstract attached to the health record which follows them throughout their service, and hence does away with any possibility of the disease being neglected in the Navy:

Exposed at [city]; primary on [site]; spirochetes ——; Wassermann ——; luetin ——; secondaries ——; tertiaries ——.
Description ——.
Signature of medical officer making diagnosis.
Serum reactions: where made; date; reactions.

PREVALENCE OF DISEASE IN 1918

The statistics given in Table 4, concerning venereal diseases in the Navy for the six-month period ending June 30, 1918, were compiled from Form F cards received in the bureau. Only original admissions are included.

TABLE 4.—VENEREAL DISEASES IN THE NAVY FOR THE SIX MONTHS' PERIOD ENDING JUNE 30, 1918

Estimated average complement	397,220
Total admissions for gonorrhea	12,953
Number of days lost	88,809
Average number of days lost	7.25
Annual rate per thousand	67.06
Total admissions for syphilis	2 4 6
Number of days lost	62,536
Average number of days lost	25 84
Annual rate per thousand	12.34
Total admissions for chancroid	3 9 0
Number of days lost	24,339
Average number of days lost	6 37
Annual rate per thousand	19.80
Total admissions, all venereal diseases	18,493
Total days lost, all venereal diseases	175,174
Average number of days lost, all venereal diseases	9.50
Annual rate per thousand, all venereal diseases	94.39

The wonderful work done in venereal prophylaxis has written a page in medical history which will live forever. We of the Navy point with a certain amount of pride to the fact that it was the Navy Medical Corps which first brought out the efficacy of prophylaxis along venereal lines. It was so thoroughly done and was so convincing that the entire medical profession has adopted the methods developed. Every credit must be given the Venereal Prophylactic Department of the Army for its extensive and efficient campaign for the protection of our soldiers, which has attained the same perfect success that characterized the original work done by the Navy.

ESTABLISHMENT OF A UROLOGIC CLINIC

The United States Navy has always had a reputation for speed and efficiency, and the establishment of a urologic clinic at the Pelham Bay Naval Training Camp bears out this reputation.

After being in the camp doing influenza work for a few days, it seemed to me that there was decided need for a urologic clinic. A building was therefore found which was being held in reserve for the observation of suspected contagious cases. Rough plans of the changes desirable in the building to make it suitable for a clinic were prepared by a sailor. A list of the physicians and hospital apprentices needed was then made out. Finally, a complete list of all equipment and instruments necessary to the proper conduct of an up-to-date, scientific clinic was compiled. Armed with this material and a letter describing my ideas on the subject, the senior medical officer, Commander B. L. Wright, was interviewed. Within one week's time after the senior medical officer had approved the suggestions made, the clinic was in full swing; the building had been reconstructed; all equipment was in place and in working order, and all instruments were at the clinic or on the way there.

TABLE 5.—TABULATIONS BY DEPARTMENT OF SERVICE SHOWING A COMPARISON OF THE PREVALENCE OF GONORRHEA, SYPHILIS AND CHANCROID IN THE NAVY FOR THE SIX MONTHS' PERIOD ENDING JUNE 30, 1918

	First Quarter (January, February and March)	Second Quarter (April, May and June)	Total for Six Months' Period
VENEREAL DISEASES REPORTED FROM THE FLEET			
Gonococcus Infection:			
Number of admissions	2,704	2,731	5,525
Days lost	11,361	9,535	20,896
Average days lost	4.06	3.49	3.78
Syphilis:			
Number of admissions	445	554	999
Days lost	6,840	4,864	11,701
Average days lost	15.37	8.77	11.71
Chancroid:			
Number of admissions	1,218	1,228	2,446
Days lost	5,349	4,428	9,777
Average days lost	4.39	3.60	3.99
Admissions, all venereal diseases			8,970
Days lost, all venereal diseases			42,377
Average days lost, all venereal diseases			4.72
VENEREAL DISEASES REPORTED FROM SHORE STATIONS WITHIN THE UNITED STATES			
Gonococcus Infection:			
Number of admissions	2,518	3,184	5,702
Days lost	26,892	34,764	61,656
Average days lost	10.68	10.91	10.81
Syphilis:			
Number of admissions	497	656	1,153
Days lost	18,238	27,320	45,558
Average days lost	36.89	41.49	39.51
Chancroid:			
Number of admissions	378	378	756
Days lost	4,145	5,196	9,341
Average days lost	10.96	11.10	12.35
Admissions, all venereal diseases			7,611
Days lost, all venereal diseases			116,555
Average days lost, all venereal diseases			15.31

Rooms suitable for cystoscopy, urethroscopy, minor operations, irrigations and other treatments were provided. In addition, there was a large waiting room with a recorder's desk, a ward containing four beds, a utility room, a small kitchen, and a room for men on night duty.

The floor plan (Fig. 1) is self-explanatory.

The personnel of the clinic comprises nine persons, three lieutenants (one the director and the other two his assistants), five hospital apprentices, and one orderly.

The patients were all referred to the clinic by medical officers in the regimental infirmaries. At the first visit, each patient had a card made out, on which was recorded his name, age, rate, location and the date, on the top line. Below that was a brief outline of the patient's history, including his chief complaint, the symptoms, their duration, the source of infection, the previous venereal history, and the present sexual

capacity. A space was provided for a record of the findings at examination, for the final diagnosis, the medicine and an outline of his treatment. On each patient's first visit, his card was made out, as far as possible, by the recorder. He was then passed on to one of the medical officers, who completed the history taking, and gave the patient a thorough examination, taking as much time as necessary for this purpose. The form of the card used for the patients appears below.

G.-U. Clinic, U. S. N. T. C., Pelham Bay Park, N. Y.
Name ——; Age ——; Rate ——; Location ——;
Date ——.
Diagnosis
Complaint.
Duration.
Symptoms.
Source.
Previous Venereal History.
Sexual.
Examination.
Treatment.
Medication.

The clinic was thoroughly equipped for accurate work, and there was intimate cooperation between the camp laboratory and the roentgen-ray department at the base hospital. The clinic gave us every modern aid necessary in arriving at a correct diagnosis.

TABLE 5.—TABULATIONS BY DEPARTMENT OF SERVICE SHOWING A COMPARISON OF THE PREVALENCE OF GONORRHEA, SYPHILIS AND CHANCROID IN THE NAVY FOR THE SIX MONTHS' PERIOD ENDING JUNE 30, 1918—Continued

VENEREAL DISEASES REPORTED FROM SHORE STATIONS OUTSIDE OF THE UNITED STATES

	First Quarter (January, February and March)	Second Quarter (April, May and June)	Total for Six Months' Period
Gonococcus Infection:			
Number of admissions	570	508	1,078
Days lost	2,910	3,407	6,317
Average days lost	5.10	6.70	6.14
Syphilis:			
Number of admissions	145	123	268
Days lost	2,497	2,777	5,274
Average days lost	17.22	22.57	19.67
Chancroid:			
Number of admissions	325	293	618
Days lost	2,672	2,549	5,221
Average days lost	8.22	8.69	8.44
Admissions, all venereal diseases			1,914
Days lost, all venereal diseases			16,812
Average days lost, all venereal diseases			8.78

VENEREAL DISEASES REPORTED FROM ALL STATIONS AND SHIPS

Gonococcus Infection:			
Number of admissions	5,832	6,423	12,255
Days lost	41,163	47,706	88,869
Average days lost	7.05	7.42	7.25
Syphilis:			
Number of admissions	1,087	1,333	2,420
Days lost	27,675	34,861	62,536
Average days lost	25.46	26.15	25.84
Chancroid:			
Number of admissions	1,971	1,899	3,870
Days lost	12,168	12,172	24,339
Average days lost	6.33	6.41	6.37

Combining the above figures with reports for the six months' period ended Dec. 31, 1917 (reported in Bulletin No. 20), the figures for the fiscal year ended June 30, 1918, are:

Estimated average complement	330,775
Total admissions for gonorrhea	21,743
Number of days lost	160,549
Average number of days lost	7.65
Annual rate per thousand	65.73
Total admissions for syphilis	3,868
Number of days lost	99,826
Average number of days lost	25.67
Annual rate per thousand	11.14
Total admissions for chancroid	7,333
Number of days lost	47,146
Average number of days lost	6.42
Annual rate per thousand	22.16
Total admissions, all venereal diseases	32,984
Total days lost, all venereal diseases	313,572
Average number of days lost	9.51
Annual rate per thousand, all venereal diseases	99.65

The general plan followed was for the medical officer to give as much time as necessary to each patient, in order that a correct diagnosis might be made. To this end, the hospital apprentices were trained to give the usual type of treatments, such as prostatic massage, bladder irrigations, sounds, the administration of arsphenamin, and the injection of mercury. After the patient was started on his treatment, he might not see the medical officer for a period of a week or ten days, unless he expressed the desire to do so, or the hospital apprentice in charge considered the interview necessary.

At the morning clinic, appointments were made with patients in need of cystoscopy, urethroscopy, minor operations, major operations, and various other procedures, which required the time of the medical officer.

Here is an outline of the week's work: The clinic's duties began at 8:30 a. m. daily. Passing sounds and other instrumental work was done at 10 a. m. Mondays and Thursdays, at 1 p. m., cystoscopy and urethroscopy were performed, on Tuesdays and Fridays, at 1 p. m., minor operations. Wednesday was arsphenamin administration day. Saturday afternoon and Sunday, only routine treatments were given.

TABLE 6.—ATTENDANCE REPORT OF GENITO-URINARY CLINIC

Day	November	December	January	February
1	..	..	..	88
2	..	67	61	..
3	..	64	65	100
4	..	52	47	92
5	..	54	..	103
6	10	47	74	99
7	14	38	29	98
8	10	..	60	90
9	..	73	141	..
10	..	60	..	84
11	28	42	60	84
12	25	49	..	83
13	27	41	69	81
14	30	48	69	67
15	29	..	56	75
16	30	58	72	..
17	..	47	68	..
18	54	79	62	..
19	42	69	..	..
20	45	62	72	..
21	42	66	71	..
22	46	..	60	..
23	42	82	77	..
24	..	50	72	..
25	74	..	81	..
26	64	68	..	..
27	45	61	77	..
28	57	51	55	..
29	..	..	79	..
30	41	63	70	..
31	..	51	82	..
Total	763	1,448	1,694	1,132
Average daily attendance				61
Maximum daily attendance				141
Minimum daily attendance				8

Through the kindness of Commander P. T. Dessez, the medical officers of this clinic were permitted to do certain necessary investigative work in the hospital roentgen-ray room, such as passing of lead ureteral catheters, immediately followed by roentgenoscopy and the giving of injections of thorium, sodium bromid, etc. Authority to operate in major operative cases discovered in this clinic was granted by the base hospital officers.

Acute venereal diseases and infectious skin diseases were definitely diagnosed and sent to the base hospital in the usual manner, through the regimental surgeon, who made out the health records in accordance with the findings of this clinic.

Charts were kept for the pathologic condition of each anatomic structure. These were kept up to date by the recorder, who made them out at the end of each

clinic day. There were special charts for syphilitic cases, chronic prostatitis and minor operations.

A perusal of the statistics proves to be very illuminating. Before discussing these in detail, attention is called to the fact that Pelham Bay Naval Training Camp is changed somewhat in its character. During the war, it was almost entirely a training camp for officers and petty officers. Therefore, the men comprising it were picked men, both as regards their intellectual capacity and their physical ability. In addition to the men in the training school, there have been stationed here a number of orchestras, bands, groups of athletes, actors and the usual number of mechanics, yeomen, and the like.

As soon as the armistice was declared, a large majority of the men originally in the camp were graduated from the schools, or discharged from the service. More recently, the camp has been utilized as a point for the physical examination and discharge of sailors, particularly those who have been abroad.

LESIONS OF BLADDER

Name and Location	Complaint	Symptoms: Duration	Pain	Fever	Rectal	Urinary Symptoms: Dysuria	Hematuria	Nocturia	Frequency	Dribbling	Residual	Investigation: Cystoscopy	Roentgen Ray	Phthalein Test	Fever	Treatment: Operative: Operator	Type	Anesthetic	Drainage	In Bed	In Hospital	Sedation	Instrumentation	Complications	Results: Cured	Improved	Unimproved	Moved to	Dead

Heading of chart for record of bladder lesions.

LESIONS OF PENIS

Name and Location	Complaint	Signs and Symptoms: Pain	Fever	General Condition	Duration	Previous Attacks	Treatment: Operative: Operator	Type	Anesthetic	Drainage	Stitches	In Hospital	Medication	Instrumentation	Manipulation	Nonop.	Results: Complications	Unimproved	Cured	Moved to	Dead

Heading of chart for record of lesions of penis.

LESIONS OF KIDNEYS

Location, Name	Complaint	Signs and Symptoms: Hematuria	Dysuria	Pain in Back	Pain in bladder	Referred Pain	General Condition	Acute	Duration	Previous Attacks	Investigation: Roentgen Ray	Cystoscopy	Phthalein Test	Wax-Tip Catheter Test	Fever	Treatment: Operative: Operator	Type	Anesthetic	Drainage	In Bed	In Hospital	Discharged	Note	Medication	Instrumentation	Results: Complications	Improved	Unimproved	Cured	Moved to	Dead

Heading of chart for record of kidney lesions.

TREATMENT PRACTICED

The attendance of the clinic was very gratifying, indeed. The total daily attendance averaged 141 (Table 6). The clinic was used largely in a consultative capacity. Patients requiring treatment, such as urethral injections, daily, have been referred to the regimental infirmaries and do not appear on the list.

The types of cases treated included practically every lesion of the genito-urinary tract. Because of the fact that most of the men were young, healthy adults, there were very few cases of major lesions of kidneys, ureters, etc.

All of the phimosis patients were operated on under local anesthesia in the clinic, 0.1 per cent. cocain being the drug used. It was our practice to put such patients to bed in the clinic for a period of from one to three days, after which they were returned to their barracks.

Lesions of the scrotum were fairly rare, only fourteen instances having been noted. Of these, five were varicocele; four were hydrocele; three, hernias, and the remainder were infections of the skin of the scrotum. The hydrocele and varicocele patients were operated on under local anesthesia and then kept in bed for a period of four days. Drainage with rubber tubing was employed in the hydrocele cases.

By far the greatest number of individual cases for any lesion were the cases of chronic prostatitis. These patients varied in age from 18 to 31 years, the average being 23 years. Fifty-two of these patients complained of morning drop; forty-one complained of more or less continuous mucous discharge; six complained of pain; ten had dysuria; four had nocturia, and one complained of premature ejaculation.

All chronic prostatitis patients were treated by rectal massage, followed by irrigations of permanganate or silver nitrate. Sounds were passed at intervals. The prostatic fluid was examined in a fresh state with a microscope at regular intervals. No patient was discharged as cured until all pus had disappeared from the prostatic fluid. Most chronic prostatitis patients were subjected to both a cystoscopic and an endoscopic investigation at some time during the course of their treatment.

We found numerous cases of enuresis, in practically every one of which we were able to discover, by the use of the cystoscope and the endoscope, a lesion of the prostate or of the posterior urethra, or both. These patients were subjected to treatment of the prostate by massage, etc., and by application of cauterizing agents through the endoscope, and were practically universally cured.

We had two cases of stone in the ureter, in both of which operations were performed in the base hospital. We had one case of bilateral renal hemorrhage, which cleared up after rest in bed, hot applications and uri-

nary antiseptics. We had no cases of tuberculosis of the genito-urinary tract.

An interesting fact was brought out in the treatment of acute gonorrhea. It was found that a cessation of the discharge was brought about in three weeks from the onset in the average case. Several cases were aborted, being cleared up within a week. On the other hand, a few cases persisted for about six weeks. These cases were all treated according to this routine: Inter-

LESIONS OF SCROTUM

Name and Location	Complaint	Signs and Symptoms					Treatment										Results			
							Operative							None						
		Pain	Duration	Fever	General Condition	Previous Attacks	Operator	Type	Anesthetic	Drainage	Stitches	In Hospital	Medication	Instrumentation	Manipulation	Complications	Cured	Unimproved	Moved to	Died

Heading of chart for record of scrotal lesions.

nal medication, acid sodium phosphate or sodium benzoate, 10 grains before meals; hexamethylenamin, 15 grains after meals. Local treatment, 10 per cent. silver protein compound of the argyrol type injected for five minutes three times daily.

Cases in which the disease had become posterior were treated by irrigation of potassium permanganate once daily and injection of a silver protein compound of the argyrol type twice daily.

We were not able to obtain any acriflavine, and were therefore unable to try out this drug, which, according to some reports, has been remarkable in its cure of acute gonorrhea.[6]

STATISTICS ON VENEREAL DISEASES IN U. S. NAVY[7]

The annual venereal disease rate in the Navy during the eight years previous to the war was without appreciable variation, as follows:

Syphilis	42.97 per 1,000
Gonorrhea	90.26 per 1,000
Chancroid	33.31 per 1,000
Total	166.54 per 1,000

During the fiscal year, July 1, 1917, to July 1, 1918, the period during which educational and preventive measures were introduced into naval training camps, methods practically parallel to those adopted in Army camps, and developed through the Navy Department's Commission on Training Camp Activities, the rates were decreased by 60.75 per cent. In figures the rate for this year is as follows:

Syphilis	12.28 per 1,000
Gonorrhea	69.39 per 1,000
Chancroid	24.10 per 1,000
Total	105.79 per 1,000

Furthermore, according to latest reports, this rate still continues to decrease, reaching in August, 1918, an average of 80.34. The annual rate is obtained in the following way: The figure representing the total original admissions to the sick list during the week is multiplied by 1,000 and divided by the complement of men. The quotient is then multiplied by 52.

6. In addition to the references already given, the following will be found of interest:
Confidential notes on Preventive Medicine for Medical Officers, U. S. Navy, Nov. 15, 1918.
7. From the Social Hygiene Monthly.

PREVENTIVE MEDICINE AS APPLIED TO VENEREAL AND SKIN DISEASES *

HUGH HAMPTON YOUNG, M.D., D.C.M.
BALTIMORE

General Gorgas said early in the war:

Venereal diseases present the most serious communicable disease problem of the war. . . . The army loses more days of service from its men on account of venereal disease than from any other cause. During the twelve months ending September, 1918, there were 170,000 cases of venereal disease in our army (in the United States). This means a loss of approximately two and a quarter million training days in a year. Add to this the cost of medical care and hospital equipment, and the loss of possible relapse later and you commence to see what venereal diseases cost a nation at war.[1] . . . During the period from Sept. 2, 1917, to May 31, 1918, the annual rate per thousand for our troops in the United States was 102.3 per cent.; the rate from all other communicable diseases, 29.4 per cent., pneumonia, scarlet fever, typhoid and paratyphoid (measles not included).

En route to France, by request of General Pershing I spoke to his officers and men on the S. S. *Baltic*, June 3, 1917, on the army venereal problem. In this lecture I presented a chart to demonstrate the excellent progress that had been made in the reduction of infectious diseases in the United States Army from 1906 to 1916 (Fig. 1). As shown here, a most remarkable result had been obtained in the practical eradication of typhoid fever and a great reduction in malaria. Alcoholism had been reduced to a third of its previous frequency.

After the introduction of prophylaxis in 1911, venereal disease had dropped from 155 per thousand per year to 84. I expressed the hope that it would

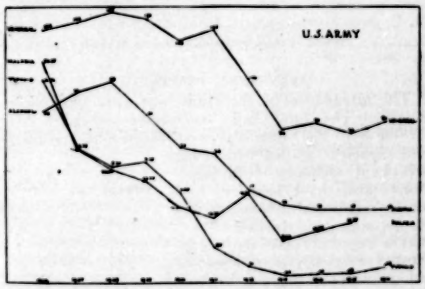

Fig. 1.—Decrease in infectious diseases in the United States Army during the ten-year period from 1906 to 1916.

be possible to better these figures considerably in the American Expeditionary Forces. It will be subsequently seen how this prophecy was fulfilled. In this lecture, stress was laid on the value of education as to the frequency and danger of venereal disease.

* Read before the Section on Urology at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.
* Owing to lack of space, this article has been greatly abbreviated in THE JOURNAL by the omission of tabular matter, reproduction of official orders, etc. The complete article appears in the Transactions of the Section and in the author's reprints.
1. Venereal Disease, No. 11, U. S. P. H. S.

I dwelt on the fact that continence was quite compatible with sturdy health in young men leading active outdoor lives, and called attention to the excellent results that had been obtained on the Mexican border by closing houses of prostitution, and driving out all clandestine prostitutes and saloons in nearby towns. Emphasis was also laid on early prophylaxis, and the remarkable results obtained by it.

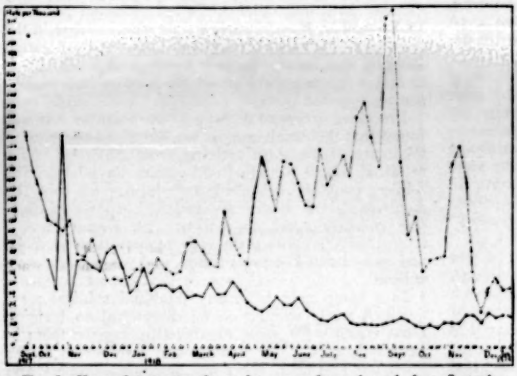

Fig. 2.—Venereal rate per thousand per year for each week from September, 1917, to January, 1919, in both the American Expeditionary Forces (solid line) and in the troops in the United States (broken line).

Then and afterward General Pershing evinced the keenest interest and knowledge of the subject of venereal disease as an army problem.

Arriving in England, I was assigned to the study of the venereal problem there with three other officers, namely, Capts. L. C. Lehr and M. L. Boyd and Lieut. H. L. Cecil. We reported to the British authorities in England, June 8, 1917, and devoted about a month to the study of the treatment of venereal diseases in England and with the British troops on the continent. Numerous hospitals in England and France were visited, and the routing of venereal patients was studied from their diagnosis in the various organizations to their admission to the hospitals. A second month was then spent in the study of the methods employed in the hospitals attached to the French army, and an extended tour was made with Captain Lehr and Medécin-Major Simon of the French army, during which the Second, Fourth, Fifth, Sixth and Eighth Armies were visited and sanitary organizations were studied and followed from base to trenches in various places.

VENEREAL DISEASES IN BRITISH AND FRENCH ARMIES

The British Army.—It was found that during the year 1916-1917, treatment was given in 112,259 cases of venereal diseases in the British army hospitals. Of these, 52,495 were treated in fourteen hospitals in England and 59,764 in five hospitals in France. The capacity of these hospitals varied in England from 100 to 1,500 beds, and in France from 500 to 3,500 beds. The largest of them, with a capacity of 3,500 beds, had given treatment, up to the end of September, 1917, in 55,634 cases of venereal disease, among which were 12,000 syphilitics, to whom 94,021 injections of arsphenamin had been given. During the years 1915-1916, this hospital had given treatment in 22,596 cases of gonorrhea, which totaled for the patients 1,082,621 days in hospital, an average of forty-eight days per patient. Sixty per cent. of these cases presented complications, usually prostatitis, and epididymitis, and 17 per cent. of the patients were readmitted for relapse of the disease after being discharged as cured. In addition, all patients lost from one to two weeks each in travel to and from the hospital.

The French Army.—No accurate statistics were obtainable as to the amount of venereal disease in the French army, partly owing to the fact that uncomplicated gonorrhea is treated by the French in the regimental organizations. Thibierge,[2] however, estimated that up to the end of 1916 there had probably been 200,000 cases of syphilis in the French army. These were treated in about twenty hospitals varying in capacity from 100 to 800 beds, each patient remaining in hospital for from four to seven weeks. The French had established throughout their country "Centres dermato-vénéreologiques" at which patients with venereal disease, in both the civil and military population, are under treatment at clinic and as bed patients.

RECOMMENDATIONS FOR UROLOGIC SERVICE

August 6, 1917, I reported to the chief surgeon of the American Expeditionary Forces, and was requested to prepare recommendations for the organization of a urologic service of the American Expeditionary Forces.

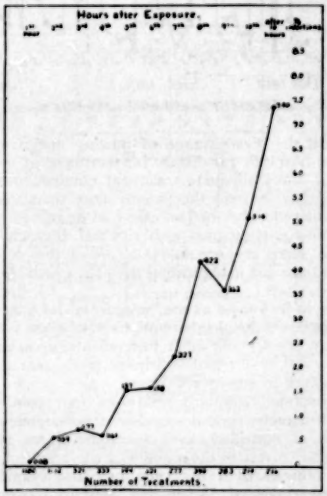

Fig. 3.—Efficacy of venereal prophylaxis. The percentage of infections (or failures) gradually rises from 0.08 per cent. during the first hour after sexual contact to 1.57 per cent. after four hours, and reaches 7.4 per cent. after ten hours.

2. Thibierge: Syphilis et l'armée.

In a preliminary argument the disadvantages of the methods employed in the French and British armies were briefly detailed, particular stress being laid on the absence of educational propaganda, of prophylactic

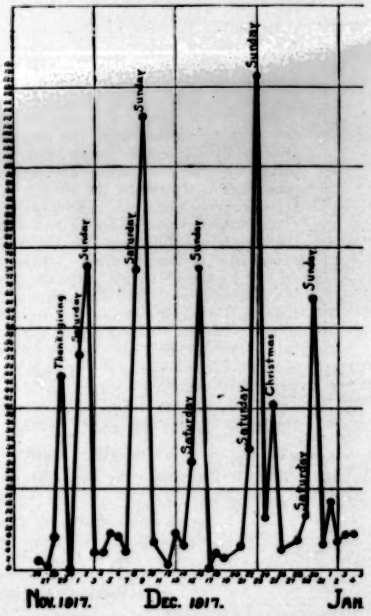

Fig. 4.—Record of prophylactic treatments at Rennes.

methods, the disadvantage of moving men from the front to hospitals far distant for treatment of venereal diseases, the inadequate treatment obtained owing to the inability to treat the patient more than a limited period of time, and the bad effect on morale in removing from the front men with venereal disease.

Steps were at once taken to make the necessary preparations for inaugurating the plan which had been adopted.

A set to be known as the "regimental infirmary urologic set," with a splendid equipment of glass syringes, platinum needles and other instruments, necessary for syphilis and minor genito-urinary work, was devised and ordered in quantity in Paris.

A simplified standard treatment for syphilis was devised, namely, special ampules of neo-arsphenamin; ampules of bidistilled sterile water, 2 c.c. (the solution to be made direct in the ampule of neo-arsphenamin); 1 c.c. ampules of 1 per cent. mercuric cyanid, and ampule syringes of 40 per cent. mercurial (gray) oil (mercury for intramuscular injections).

INAUGURATION OF PLAN IN THE DIVISIONS

The first division had already arrived in France and was encamped in the training section of which Gondrecourt on the Meuse River, about 20 miles from Toul, was the headquarters. Capt. M. L. Boyd was sent there as "division urologist," to put the new methods in operation, and was given the most hearty cooperation by the division surgeon, Colonel Ashford. The effects of the methods adopted soon began to show themselves.

In September the venereal rate was 80, but by October 26 it had fallen to 54 per thousand per year. In November, however, came a terrible increase in the venereal rate, which rose rapidly to 201. Investigation revealed that men in the new divisions that had begun to arrive through the Port of St. Nazaire had become greatly infected there.

I received orders to investigate the situation. It was found that this small seaport was utterly inadequate to take care of the ships arriving from America. As a result of this, it would often be many days before the soldiers could be debarked, and during this time the men were given shore leave for the purposes of exercise, relaxation and amusement. St. Nazaire was a typical dirty seaport town with numerous grog shops and many houses of prostitution, and was inadequately policed.

In a camp near by, many thousand soldiers were detained while waiting to be dispatched to training areas which were being organized to receive them in eastern France. The soldiers had free access to the town, and as a result there was much drunkenness, and the houses of prostitution did a flourishing business, the adjacent streets being blocked by hundreds of soldiers, and the individual women taking on from thirty to sixty men each in an afternoon and evening. Men returning to the ships found no prophylactic stations, and those in the town and camp were inadequate. The sudden rise in the venereal rate was thus immediately explained.

The following memorandum was presented:

Paris, Oct. 20, 1917, a memorandum for a cable to Secretary of War given to General Pershing.

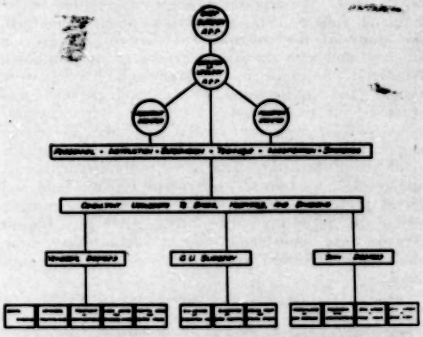

Fig. 5.—Graphic outline of the organization of the division of urology and its activities.

Commanding and medical officers should give more attention to the instruction of men on venereal diseases and their prevention.

Incoming troops show evidence of contracting venereal disease while on leave just before embarking.

Equipment for the treatment of venereal disease on shipboard has been very inadequate. Cases developing on sea, especially syphilis, have gone untreated. Transports should be thoroughly equipped for all this work.

Regiments have arrived without proper equipment and drugs for prophylactic stations at their camps, and for the treatment of venereal disease.

Officers do not seem to be sufficiently impressed with the gravity of the venereal situation in Europe, of the especial danger to incoming troops, and of the great loss of effectives which has been produced by venereal diseases.

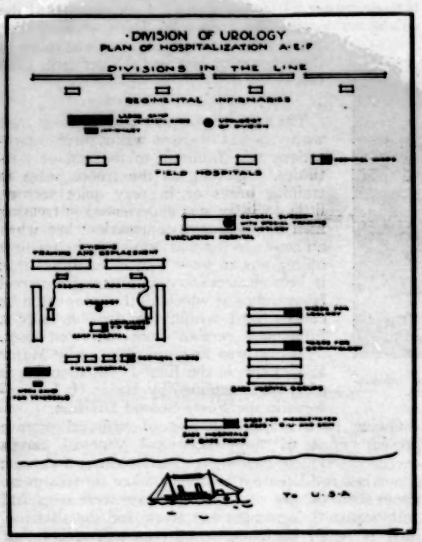

Fig. 6.—Plan of handling venereal and urologic surgical cases in the American Expeditionary Forces.

Information, instruction and advice, by means of cards, leaflets and posters, as well as by lectures delivered on shipboard, would be very helpful.

On arrival of transports, shore leave should not be given to troops, and they should be kept in camp pending their transportation to training camps.

HUGH H. YOUNG,
Major, M. R. C., Consultant Urologist, A. E. F.

In addition to the foregoing memorandum a detailed report on the situation at St. Nazaire was presented and as a result General Pershing made a special trip to St. Nazaire and promulgated General Order 77, which is one of the most notable of army health orders. This general order put the houses of prostitution out of bounds, stopped the sale of strong liquors, and confined the troops on transports until ready to be debarked.

The stringent provisions of this excellent order, particularly the provision that the "venereal reports be filed at these headquarters with personal records of organization commanders, and will be used in determining a commander's efficiency and suitability of continuing his command," produced a profound impression and stimulated both line and medical officers to keep down the venereal rates in their organizations. The immediate effect of this order was seen in the venereal reports of the troops permanently stationed in St. Nazaire, as shown in Table 2.

Comment.—During the months of August, September, October and the first half of November, the houses of prostitution flourished and were filled with soldiers. November 15, rigid orders were issued placing these houses out of bounds, and the immediate result was a great reduction in the number of sexual contacts, as shown by the number who took venereal prophylaxis. As a result, there was a steady decline in venereal infections among resident troops, and the monthly rate per thousand, which in October reached 16.8, dropped in January to 2.1 among the white troops. During the same period there was an even more startling drop in the venereal infections among the negro laborers, the percentage dropping from 108.7 per thousand per month to 11 per thousand. No statistics could speak more eloquently for the doctrine of closing the houses of prostitution. Our studies had previously shown numerous infections coming from houses regularly "inspected" three times a week.

As a result of the measures that were taken, there was a continued decrease in the venereal rate of the American Expeditionary Forces, which, according to the statistics of the Surgeon-General's Office, fell to 16 per thousand per year in October, 1918, as shown in Figure 2. In the meantime the army had been growing rapidly, and the personnel of the division of urology had greatly increased.

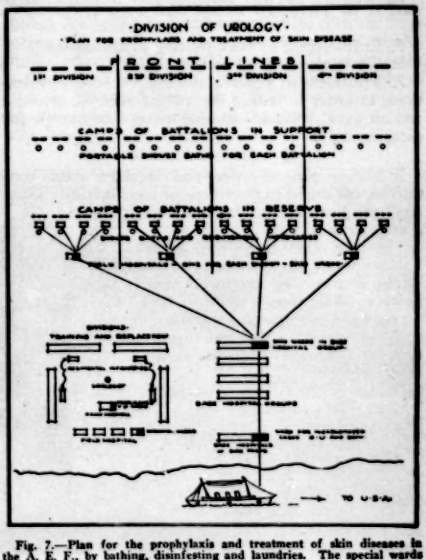

Fig. 7.—Plan for the prophylaxis and treatment of skin diseases in the A. E. F., by bathing, disinfesting and laundries. The special wards in base hospitals never became necessary.

FEATURES OF THE CAMPAIGN AGAINST VENEREAL DISEASE

The campaign against venereal disease in the American Expeditionary Forces consisted briefly of the following:

1. Social hygiene, which had for its purpose the minimizing of the number of sexual contacts.

2. Prophylactic treatment, bi-weekly examinations, the object of which was to detect venereal disease and to institute prompt and efficient treatment, in order to reduce the number of days sick, and to restrict leave in order to combat the spread of infection.

3. Repression of prostitution by placing houses out of bounds.

4. The reporting of sources of infection and dispensary treatment of the civil population.

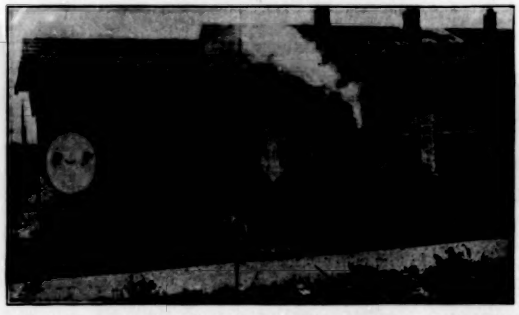

Fig. 8.—The Foden-Thresh steam disinfestor in operation at bathing establishment of the Twenty-Sixth Division within 1 mile of front-line trenches.

5. Enforcement of laws relating to alcoholism.

6. Court-martial for venereal disease.

7. Treatment of venereal disease with the organizations, in order to reduce the loss of effective strength and to avoid making venereal disease an excuse for escaping duty.

SEXUAL CONTINENCE

In various general orders and circulars, sexual continence was urged on the troops of the American Expeditionary Forces. Is this in any way possible in armies?

The total number of men covered by Table 3 was 7,401; the average length of stay in France was seven weeks; the total number taking venereal prophylaxis was fifty-six. Among these 7,000 men, during a period of almost two months, only one new case of venereal disease was discovered after four careful physical examinations were made. This record, of course, is remarkably good—probably better than that of the army as a whole, but these organizations are cited as evidence that sexual continence can be followed by large bodies of troops for a considerable period of time.

This long drawn-out war of the trenches has exploded another old-time fallacy, namely, that the soldier must be a libertine in order to be a good fighter.

EFFICACY OF PROPHYLAXIS

The army statistics for sixteen years have effectively demonstrated the excellent results that can be obtained by prophylactic treatment in preventing venereal disease. One of the most careful studies on the subject is that contained in a recent report of Riggs (Fig. 3). Riggs has shown that if given during the first hour after sexual contact, the failure of prophylaxis was less than 0.1 per cent., and during the first four hours was less than 1 per cent. After that it rose rapidly to 7.5 per cent. after ten hours. Study of the medical records of the American Expeditionary Forces testified to the accuracy of Riggs' statistics. Among 100,000 instances of prophylaxis given in Bordeaux, the percentage of failure was 1.7. An analysis of the conditions among the troops in Paris showed that the failure when prophylaxis was taken in three hours or less was 0.5 per cent. (785 cases).

RESULTS OBTAINED

The plan of keeping and treating men with venereal diseases within their organizations was followed to the end of hostilities. As long as the troops were in training areas or in very quiet sectors, little difficulty was experienced in treating men at regimental infirmaries; but when an active sector was occupied, the medical officer was so busy with other duties that it became necessary to organize venereal labor camps at which all the cases could be concentrated within the division, only a little more remote from the front lines. This plan was first promulgated by Major L. C. Lehr, in the First Division, and was afterward amplified by Major H. L. Sanford, in the Forty-Second Division.

Owing to the small amount of venereal disease present, none of these divisional venereal camps exceeded 180 men, even though certain cases of chronic gonorrhea and latent syphilis were taken for treatment. From 60 to 80 per cent. of these men were on a full duty status doing important work for the division, such as repair of roads, stone crushing, erection of barracks, horse lines, sanitary work, carpenter work and general mechanical work. It was shown that complications were not more frequent here than with men who had been hospitalized, and the active exercise and outdoor life had a wonderful effect in maintaining health and morale. Of great importance was the opportunity afforded to bring back to these divisional camps cases of syphilis for successive courses of treatment as the months passed by. In periods of great activity, and when an offensive was planned, these men were often sent forward to do their bit with their com-

Fig. 9.—French movable steam laundry, with compact, modern machinery driven by gasoline motor; hot-air drying room; capacity, 2,000 suits per day (service de santé type).

rades, being allowed to return afterward to complete their treatment. Many of them made the supreme sacrifice, but there was no evidence to show that they did not fight as well as the others.

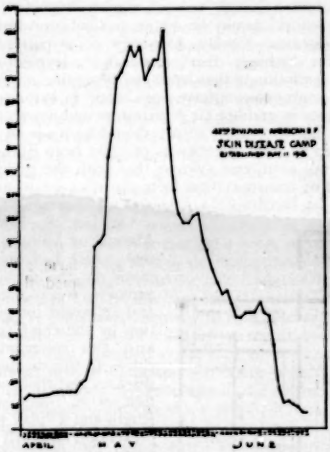

Fig. 10.—Number of cases of skin disease in field hospital, Forty-Second Division, A. E. F., during the months of April, May and June, 1918, showing rapid decrease when general bathing and early diagnosis and treatment were vigorously pushed.

Figure 5 shows graphically the organization of the Division of Urology, American Expeditionary Forces, and Figure 6 shows the plan adopted for the treatment of venereal diseases and urologic surgical cases in the American Expeditionary Forces.

In many of the divisions, particularly those at the front, the amount of venereal disease contracted monthly was astonishingly small. The Forty-Second Division had only six new cases in one month and eight in another month among 26,000 men. When, however, troops were allowed to go on leave, the venereal rate often increased considerably. During the last stages of the great conflict, when the divisions were being rushed forward into battle, almost continuously for several months, the maintenance of the venereal labor camps was quite difficult, and it was proposed to organize army venereal labor camps to which all cases incapable of being handled with divisions would be sent. These were to be situated not too remote from the front, at places where work companies were needed for employment in useful occupations and as much as possible on a full duty status. The sudden ending of the war made it unnecessary to organize these army camps. In the depot or replacement divisions venereal camps handled the problem among replacement troops very effectively.

General Pershing's interest in the venereal problem was actively maintained throughout the war, as evinced by the frequent orders, memoranda and bulletins that he issued from time to time. His letter to Lord Milner shows his deep interest in the subject. This letter was incorporated in Bulletin 54, which was drawn up at his request. Although engaged in one of the great battles of the war, General Pershing took the time to review the manuscript and give his personal approval to it.

RESULTS

The figures as officially announced to the entire American Expeditionary Forces by the Surgeon-General of the United States Army, are shown in Figure 2. As seen here, after the early rise, the result of the bad conditions at St. Nazaire, there was a steady decline until Nov. 1, 1918, when the rate reached 16 per thousand per year. Since the signing of the armistice there has been a slight increase, the rate during December and on January 1 being 28 per thousand per year, less than one third of the rate in the regular army in 1916. In Figure 2 is also seen the venereal rate of the United States Army stationed in the United States. As seen here in September, 1917, there was a rapid increase of the venereal rate due to the men coming in with the draft from civil life. From 1 to 8 per cent. of these men were infected with venereal disease (average: white men, 5 per cent., negroes, 15 per cent.), and the annual venereal rate of the army took a sudden great rise to 200. During the winter months of 1917 there were fewer drafts, and the curve fell; but during the spring and summer of 1918, with the huge increase from civil life, the venereal rate rose steadily until it presented the monthly rate of 228 per thousand per year, and one week it reached the great height of 342 per thousand per year. With the cessation of hostilities and the stopping of the draft, the rate rapidly dropped to 72, December 1.

Fig. 11.—Field hospital devoted to treatment of skin cases of the Forty-Second Division, near Baccarat, on the river Meurthe. This hospital was better known among the doughboys as "Scratchville by the Sea."

Statistics show that for every case of venereal disease acquired in the Army in the United States, five were acquired from civil life and brought in with the draft.

A recent report shows that "in slightly over a year and a half, since the first drafted men were mobilized,

there have been reported to the Surgeon-General over 225,000 cases of venereal disease among all troops in the United States. Approximately 200,000 of these cases were contracted in civilian life."

Experiences obtained in the American Expeditionary Forces, in which the venereal rate had been reduced to such a low figure (16), testify to the great value of the army methods for combating venereal disease, and the splendid effect of military discipline and the well ordered life of the soldier.

HOSPITALIZATION

Following advices from other armies in Europe, preparations had been made by the Surgeon-General's Office to provide one base hospital of 1,000 beds for venereal diseases, alone, for every 100,000 troops sent to France. Personnel and equipment of many of these hospitals were organized and dispatched to France, but venereal diseases had been so effectively combated, and the measures for their treatment with the organizations in the divisions and in the depot labor camps had been so effective and satisfactory, that it was decided not to use any of these hospitals for venereal disease, and they were promptly turned over to the treatment of the wounded and the sick.

In October, 1918, when the hospital resources in the American Expeditionary Forces were terribly taxed to take care of the wounded and sick, it was extremely gratifying to realize that of the twenty base hospitals which it was planned to provide for an army of two million men, according to the original intentions of the War Department, none were required for the treatment of venereal disease, and that every one of them was in use for other purposes and was available for the treatment of the wounded at that most trying time in the medical history of the American Expeditionary Forces.

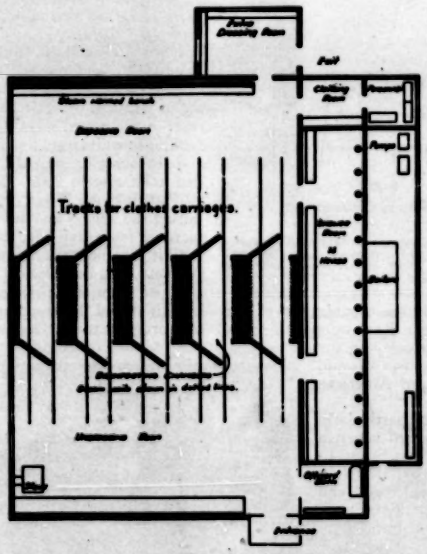

Fig. 12.—Plan of an excellent German steam bathing and disinfesting plant, captured in the Argonne.

PART II

SKIN DISEASES

Circular No. 2, chief surgeon's office, Nov. 9, 1917, provided for eight professional divisions in the medical department, and named the director for each division. In the fifth division, venereal, skin and genito-urinary surgery were grouped together and placed under a "director of urology."

An investigation was at once made as to the frequency of skin disease, and the best methods for its prevention and treatment that had been evolved in the French and British Armies. A memorandum was then sent to the office of the chief surgeon, American Expeditionary Forces, calling attention to the fact that trench fever, scabies and inflammatory processes in the skin had caused 90 per cent. of all the diseases of the British armies in France and that, being largely due to pediculosis and scabies, they were almost entirely preventable; that it was of utmost importance that every effort should be made toward prevention of skin diseases, namely, provision of requisite facilities for bathing, disinfestors and adequate supply of underclothing; that since the beginning of the war great improvements have been made in bathing apparatus, steam and hot air disinfestors and movable laundries, and that every effort should be made to obtain these in as great quantity as possible from France and England, as it was evident that with the great difficulties of transportation from America we would certainly be faced with a considerable shortage.

On Jan. 8, 1918, the Manual of Military Urology, which had been prepared by the division of urology, was presented and approved for publication by the chief surgeon and the commander-in-chief. In this manual skin diseases and their prevention were discussed at length and a "plan for the prevention and early treatment of dermatologic cases" was announced.

General Order 38, American Expeditionary Forces, Sept. 17, 1917, delegated to the engineering corps the furnishing and installation of bathing apparatus, and General Order 13, Jan. 21, 1918, delegated to the quartermaster corps the furnishing and installation of laundries and sterilizers and the provision of a supply of clean underclothing.

General Order 18, American Expeditionary Forces, Jan. 31, 1918, held the town major responsible for the location and maintenance of baths, washing and incinerating facilities. The medical department was not authorized to take part in the management of the bathing, disinfesting or laundering for the troops.

In compliance with the directions embodied in a letter of Feb. 21, 1918, from the chief surgeon, American Expeditionary Forces, to Major Hugh H. Young, a report on the prevention of skin diseases in the American Expeditionary Forces was made by a board consisting of Majors Hugh H. Young, Hans Zinsser and Haven Emerson.

It is possible to give in THE JOURNAL only the headings of this official report, namely: The great frequency of disease due to vermin, especially skin diseases; methods of disinfestation, its relation to position of troops; choice of methods; relative value of steam, hot air, chemicals; laundries; repellants; scabies stations; proposed organization.

The splendid work and remarkable ingenuity of certain division urologists in improvising apparatus and in bathing and disinfesting their troops under great difficulties deserve extended notice; but unfortunately our time is too short and space does not admit of even mentioning their names. These men struggled at all times with great problems of preventive medicine, and obtained results in the prevention of skin and venereal disease that were indeed remarkable. When the divisions were engaged in combat they were allowed no rest, but took active part in the operations, sometimes as battalion surgeons, at other times with the ambulance or triage, in the shock wards, or as operators in the divisional hospitals for the desperately wounded. The debt of gratitude that I owe these faithful assistants, whom I delighted in visiting, as frequently as possible, up and down the front, could never be repaid. The results obtained by them is forcibly shown by the fact that their work in preventing diseases of the skin and in sterilizing those patients who were early brought in to the field hospitals devoted to skin diseases were so effective that it was very rarely necessary to evacuate patients with skin disease out of the divisions, and in an exhaustive report made by Major Knowles, assistant consultant in dermatology, it is shown that in October there were probably not more than 100 cases of pyodermia in the entire American Expeditionary Forces. As a result, it was never necessary to organize a special hospital for skin diseases, and our only clinic was a small one in Paris. Instead of 90 per cent. of the evacuations for disease from the organizations being the result of vermin, as reported to have been the case in the British Army, it is safe to say that a very small percentage of the cases of disease evacuated from the American Expeditionary Forces was due to such causes. These magnificent results were obtained under most trying circumstances, with great shortage of apparatus, with equipment of varied character, and confronted by the necessity of improvising all sorts of crude methods in order to bathe and disinfest the troops. Had it been possible to have twenty portable shower baths, two portable disinfestors and two portable laundries per division with the proper personnel and transportation, no difficulty would have been encountered in practically eliminating lousiness and scabies from the troops.

In the most active period of warfare, that of the great battle of the Argonne, the need of army and corps supervision of bathing and disinfesting equipment was shown, and provisions were made for a corps urologist to carry out this work for the divisions as fast as they come out of the lines to rest. But space does not permit reference to the detailed plans that were finally adopted to insure the proper functioning of the sanitary measures. In this last phase of the war the advance was so swift that it was necessary to make use of captured German bathing establishments, one of which is shown in Figure 12.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. CORBUS, TAUBER, LOWSLEY AND YOUNG

DR. ABRAHAM L. WOLBARST, New York: With reference to the standard treatment of syphilis, it is easier to speak of it than to carry it out in actual practice. Strictly speaking, there is no standard treatment for syphilis or any other disease, because there are no standard human beings, and we must treat the individual and not the disease. If we start out on the assumption that syphilis requires so many arsphenamin injections, and so many mercury injections, we are going to strike a snag. We must study the individual, and unless we do that we are not going to cure him. I regret that the author did not say anything about the clinical aspects of syphilis, and especially the primary lesion. We are attaching altogether too much importance to the laboratory findings and giving not enough attention to the clinical features. It is the fashion in some quarters to make the diagnosis of syphilis on a positive Wassermann reaction, even though clinical data might be absent. I think this is a serious error. We should be able to recognize a chancre when we see one. It is far better to let a man with syphilis go untreated until he shows definite clinical symptoms, than to take a man who has chancroid or something of that sort and treat him for syphilis just because a laboratory found a positive Wassermann. I do not wish to underrate the value of the Wassermann test; but I believe it means nothing unless it is employed intelligently in conjunction with the clinical aspects of the case. Different laboratory workers get contrary results on the same serum taken at the same time. How, then, can we rely implicitly on such a test? You have no moral right to convict a man of having syphilis unless the positive Wassermann is corroborated by clinical data supporting such a diagnosis. Another expedient of great value is the excision of venereal ulcers whenever it can be done. If the lesion is on the foreskin, I invariably circumcise the patient, thus removing at one stroke the foreskin as well as the ulcer. If it be a chancroid, we have an immediate cure; if it is a chancre, the future course of the disease is greatly modified for the better by this excision of the infecting focus. As to the arsphenamin technic: I have given over 1,700 injections in my office without a single severe reaction of any kind. I think this is due to the water which I use. I use an "aerated distilled water" (made by an old established mineral water manufacturer in New York). I have found this water much more satisfactory in every respect than the pure distilled water. The manufacturer informs me that the water contains (per 100 volumes) 0.70 volumes of oxygen, 1.26 volumes of nitrogen and 0.06 volumes of CO_2. Those gases are forced through distilled water under high pressure. I am of the opinion that the oxygen in the water may possibly have some stimulating effect by oxygenating the red blood cells and thereby overcoming any possible toxic effects of the arsphenamin in the blood. In cases in which arsphenamin and mercury do not give the desired results, I recommend pituitary extract. It has been pointed out by eminent students of endocrinology that syphilis is essentially a pituitary disease and that syphilis has a very distinct and close bearing on the pituitary. A man deficient in pituitary extract is more easily infected than a normal man, and once such a man is infected, it is harder for him to get rid of his infection than for a man with normal pituitary substance. Small doses, almost homeopathic in character, have been of great service in such cases.

DR. HARRY W. PLAGGEMEYER, Detroit: With regard to the urologic school at Fort Oglethorpe, I do not think that Dr. Timberlake has sufficiently brought out just what was done there. I am not saying that critically. Possibly it is a matter of bashfulness. I had the privilege of being a "rookie" in Oglethorpe and, of course, like many of the rest of us here, I slept in the barracks, and I heard the same talk, and one of the chief sources of conversation was the urologic clinic, at the time I got there, and the work that Dr. Timberlake was doing. The point is that although he has given us a rather amusing sketch, and made a bit light of his endeavors there, I think that from a practically inchoate mass he developed one of the finest and best organizations in the way of teaching, in concentrated form, that I have ever seen; and the point I want to bring out is this, in case of possible argument: I heard some remarks, after I came away from Oglethorpe, against the dangers of so-called tabloid teaching. At Oglethorpe, in addition to engendering in the minds of all the men in the barracks, a kindly democratic feeling, he inspired them with a very

healthful fear of their subject, which is the beginning of wisdom. I am sure that he has sent out from that school hundreds of men, who otherwise would probably have dabbled in urology, who have been given not only a fundamental training in details, but an atmosphere on the subject which will redound to the glory of this section in the future. The school of urology at Oglethorpe, as conducted by Major Timberlake, is a lasting monument to his work.

DR. V. D. LESPINASSE, Chicago: Germane to Dr. Young's paper in regard to reconstruction work, I would like to mention an apparatus for reconstruction of the penis. This apparatus was designed originally to help the condition of a very undeveloped penis. In answer to the patient', appeal I developed an appliance and fitted it to his penis. This appliance was used with satisfaction and has also been used on one case where the shaft of the penis was about two-thirds gone.

DR. ANTON G. RYTINA, Baltimore: I would like to say a few words about the clinic we established in Baltimore, which is known as the U. S. government night clinic. We have sufficient funds available to conduct the clinic along very highly efficient lines, but the main thing I want to bring out is the connection therewith of the detention ward, and I think the influence of this organization, and all organizations, ought to be along the lines of controlling prostitution by the establishment of detention wards. We have, in connection with our clinic, this detention ward, which is made very efficient by the splendid cooperation we have in the Baltimore police department and the city courts. There is a statute on the books of Maryland which states that any individual who is suffering with an infectious disease can be detained, or can be quarantined, and these women are picked up off the streets and are brought to us. We detain them for arsphenamin treatments as long as we think it is necessary, and it is surprising to see the wonderful work we are doing. The only opposition we have been receiving has been on the part of the suffragists. They cannot see why we should detain women and not men, and in conversation with one of these women I told her it was an economic problem entirely; that in Baltimore about the most infections that a man could give in one evening would be one or two; whereas we have women brought in who sometimes infect as many as forty men a night. I remember one woman especially who had extensive condylomas of the vulva, and she told us confidentially that she had been having intercourse with about forty soldiers every evening. We have about twenty-five beds. We ought to have about five hundred. A civic organization has just been established, and I feel it is going to accomplish a lot, and be very successful, because Dr. Young is going to head it.

DR. WILLIAM E. KEANE, Detroit: I would like to bring out a method used in the outpatient department of St. Mary's Hospital, where we are unable to secure the serum from the sore for the dark field, and where we are unable to diagnose the chancre clinically, and it is too early for the blood test—cases where the foreskin cannot be retracted and yet the diagnosis should be made as quickly as possible. We have circumcised the patient and in several cases were able to grow a sore on artificial serum and demonstrate spirochetes in the dark field within a day or two and, of course, proceed with specific treatment. This is a distinct advantage and in all doubtful cases it certainly is justifiable to take such means to enable us to make a very early diagnosis. I certainly agree that the time to treat syphilis is in the very early stage, and the earlier we can make our diagnosis, the more we are going to do for the patient later on. The excision of the sore certainly seems to be rational treatment. Not only that, but where for reasons we are unable to excise the sore, we should direct treatment particularly locally, with the cautery, or with mercurial ointment, because it is a distinct advantage to do as much as possible to eradicate the focus of infection.

DR. JAMES R. DILLON, San Francisco: I agree with Dr. Tauber that every venereal sore should be examined for syphilitic infection, such as herpes, simple ulcers, chancroids or hard chancres. Frequently the spirochetes are not found in the first examination, especially if the patient has used a mercurial preparation. If the lesion is treated with a mild boric solution, or with a physiologic sodium chlorid solution, the spirochete may reappear in three or four days. Regarding standards for arsphenamin treatment in primary syphilis, I followed a series of cases at the Stanford medical school, taking the blood Wassermann twenty-four hours after each arsphenamin injection, and found some cases in which the provocative Wassermann was positive where the chancres were only two weeks old; in other cases, after the second or third injection the Wassermann became positive, where it had previously been negative. You cannot limit treatment to any particular number of injections. In some cases it will take as many as ten or twelve, with mercury, to render the provocative test negative. Another thing, there is undoubtedly a specific strain of spirochete that enters the blood stream and attacks the nerve centers early, even in the first few days of the primary sore. Occasionally, a positive spinal fluid is found in the early stages of primary and secondary syphilis and in spite of intensive antisyphilitic treatment in the early stages, with blood tests to guide the treatment at intervals of from six months to a year, for two or three years afterward, the blood Wassermann would return positive. Possibly the only way of curing such patients is by the Swift-Ellis method or other intraspinal injections. Ordinarily, I give at least three additional injections after the provocative Wassermann has become negative.

DR. P. A. JACOBS, Cleveland: I have listened with a great deal of interest to the various methods of standardization for the treatment of syphilis. It is my opinion that the standardized treatment for syphilis cannot be accomplished. What I would suggest, first, is that some standardized method for the carrying out of the Wassermann reaction be first instituted. No two serologists perform the Wassermann test or technic alike. One uses an alcoholic extract, and the other cholesterin, or what not. If I am not mistaken, the British have at this time a commission for the purpose of bringing about a standardization for the performance of the Wassermann test.

DR. ELMORE B. TAUBER, Cincinnati: In Ohio we have a law which is even a little bit better than that of Maryland, I believe. If there is a reasonable doubt that a person has venereal disease, we have the right to put him in detention. So at the present time we are arresting both men and women on the streets of Cincinnati. We have eighty beds for women and thirty-seven for men at the present time at the Cincinnati General Hospital, and we are getting remarkably good results in this way. We are taking these women (they usually come in negative, as they have had a douche, or something of the sort to make them negative) and their first slide is negative as regards gonorrheal diseases usually, and the Wassermann is taken immediately. But after being there for twenty-four or forty-eight hours you would be surprised at the 95 to 98 per cent. of positive slides that we get. We only discharge them after they have three negative slides, without any treatment. In regard to Dr. Wolbarst's idea of the serum, I was not speaking of the condition when the serologic test becomes positive. My method is entirely directed to try and standardize, and as Dr. Corbus said, we must arrive at some method of standardization. My method is directed purely at the early diagnosis, and the treatment under those conditions, before the serologic condition is positive. Because without that we are in a deplorable state. While it may not do anything it is at least a step forward in the right direction. Dr. Keane's method of circumcision and growing a culture seems to be rather logical, and one I will be glad to try out.

DR. HUGH H. YOUNG, Baltimore: This question of standardization is an extremely important one. It was absolutely necessary in the A. E. F. to suggest a thorough method of treatment of syphilis. We did not lay down any fixed law as to how the disease should be treated, but we standardized more or less the drugs to be used, because it was impossible to have everything. Mercury and arsenic were given simultaneously during the first course, and in the after courses neo-arsphenamin was preferred to arsphenamin. You

do not have to have Dr. Wolbarst's special water, aerated with certain gases, and things of that sort; just a little tube of ordinary sterile water was all that was necessary, and you could entrust it to men who had little experience before. I am a strong believer in an effort to get at what might be called an ideal treatment for syphilis, rather than a standard treatment. The work these men are doing in Chicago, Cincinnati and elsewhere is bound to spread. We studied the whole question of infection of prostitutes very carefully with the French. I saw at St. Nazaire prostitutes who had infected our soldiers, and yet it was impossible to see that they had any venereal disease at all. We got a lot of syphilis in one house, and yet you could find no syphilis among those women. We investigated further and found that not infrequently the prostitute transmitted the diseases, not because she herself had it, but because she simply was a carrier from one man to another. Where a woman would have intercourse with from fifty to one hundred men in an evening, if one fellow came in whose secretion was filled with staphylococcus, the woman might easily, if she did not wash, transmit the infection to the men who followed. We found one house where eighteen men got venereal disease, and one of the women had as a helper a small boy who opened the door and welcomed everybody. He had a large chancre on his penis and would reinfect her two or three times a day, and she spread it to the soldiers who came along. There is no question about it that one of the greatest dangers in houses of prostitution is lack of cleanliness, and the fact that these women transmit disease by being just temporary carriers of deposits left by applicants for her favor.

DR. BUDD C. CORBUS, Chicago: In regard to the standardization of treatment, especially in regard to syphilis. Looking up our army records, and every record that was available, there was no definite standard set for the treatment of this disease, that could be followed with any degree of accuracy. By standardization I do not mean that every case is going to measure up to this one standard and be treated that way. Ordinarily there are certain salient features that stand out in the treatment of syphilis, that are not adhered to. We have attempted to standardize the treatment of syphilis. Our standard is not perfect, but it is flexible, and is an attempt at something ideal. If it is imperfect, we can regulate it some time later. Systematic standardization in the treatment of syphilis is universally needed.

On Teaching Hygiene.—No greater service can be rendered the college youth than requiring him to devote some time to the conscientious study of both personal and public hygiene. This is so universally accepted by academicians that it would be but useless repetition to present arguments in its behalf. That universities regard hygiene as an essential subject is demonstrated by a perusal of their catalogues. A criticism called forth by the average course in hygiene, however, is the half heartedness or laxness with which it is conducted. . . . Hygiene, both personal and public, can be made one of the most interesting subjects in the college curriculum. Is it not true that people are fundamentally interested in health? It has been stated that matters relative to health and physical well-being make up the bulk of the laity's conversation. If this is true why not by education substitute facts for the world of harmful misstatements and prevalent superstition?—John Sundwall, *Pub. Health Rep.*, Nov. 7, 1919.

PATHOLOGY AND OPERATIVE TREATMENT OF CONTRACTURE OF NECK OF BLADDER *

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We may apply the general term "contracture of the neck of the bladder" to designate all those pathologic processes involving the region of the internal vesical sphincter and the adjacent periurethral tissues of the prostatic urethra that do not belong to the class of true neoplastic formations, and that result in a greater or less coarctation, rigidity or distortion of this portion of the urethrovesical canal. The fibromas or adenomas that may be located in this region are usually grouped in the category of so-called "hypertrophy of the prostate," although, correctly speaking, fibro-adenomas of the prostate would be a better appellation. When the latter are unaccompanied by fibrotic and inflammatory lesions leading to stenosis of the vesical sphincteric ring, they make a variety quite distinct from what we wish to term "contracture of the neck of the bladder."

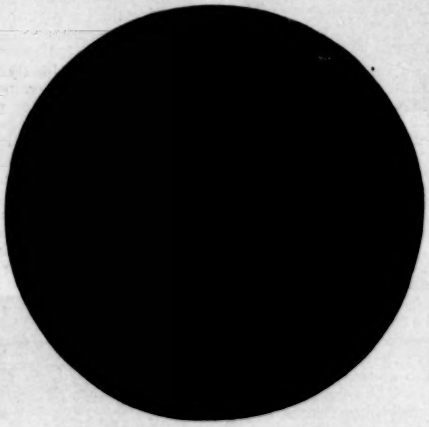

Fig. 1.—Fibrotic lesions.

The appellation "median bar" should not be employed because its application is confusing, for the term is not sufficiently comprehensive to include all the lesions that belong to this class of cases. Although it is an accompanying objective manifestation of some lesions of contracture of the neck of the bladder, it is frequently absent, and can in no sense be regarded as a primary lesion. Nor is it for the most part responsible for the clinical symptoms. Its use, I believe, should be discarded in this connection.

It was the pathologic study of cases that gave the clinical symptoms of contracture of the neck of the bladder, cases that did not belong to the class of adenomas, that led me to adopt a more extensive operative procedure than that which merely has for its purpose the removal of a small portion of tissue from the floor of the sphincteric region. These pathologic investigations on material obtained by a wide exsection of tissue from the affected region have brought me to the conclusion that, although no single lesion may occur to make up the complex of contracture of the neck of the bladder, nevertheless, the anatomic alterations which lead to the narrowing of the bladder outlet are so extensive and deep that the radical surgical procedure suggested should give better results than some of the methods applied heretofore.

My pathologic studies of seventeen cases have brought to light that we are dealing here with single lesions in some cases and with a combination of changes

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in others, always, however, representing invasion of the sphincteric and periurethral tissues extending far beyond the mucous membrane. These lesions may be

Fig. 2.—Arteriosclerotic sphincteric fibrosis showing multiple enlarged sclerotic vessels.

a simple fibrosis of the sphincter without evidences of a previous inflammatory process, the fibrosis being of varying depth or there may be fibrosis accompanied by an inflammatory process; or there may be submucous and periurethral inflammatory lesions involving the sphincteric region and posterior urethra extending centrifugally for a variable distance into the surrounding tissues, forming an inflammatory fibrosclerotic sheath of varying thickness; or, there may be diffuse glandular invasion of the sphinteric region with or without periacinal inflammation associated with more or less sphincteric fibrosis; and, finally there may be mixed forms in which any of the foregoing changes may be accompanied by the accidental formation of small adenomas or fibromas.

It must be well understood that any observations on the nature of nonneoplastic lesions at the neck of the bladder are open to fallacious interpretation, in view of the fact that the very incipience of the process can rarely, if ever, come to our notice. What can be submitted for histologic section are tissues which represent results of more or less chronic processes, that may have taken on new aspects by virtue of the advent of secondary complications, as well as secondary mechanical distortions. On the one hand, chronic cystitis, with or without pyelonephritis, vesical calculus, and chronic inflammation of the prostate may be responsible for alterations in the neck of the bladder that are quite distinct from the original lesion, causing confusion in our subsequent estimations of the pathology; and, on the other hand, distortions of the bladder, the mechanical effect of the distention of chronic retention, may bring about pseudovalves or bar formations at the vesical neck that are in reality not the cause but the result of a number of anatomic, mechanical and pathologic factors.

A critical analysis of the dignity of all the elements concerned in the pathology of each of my own cases, however, has enabled me to come to certain conclusions that are somewhat at variance with the observations of those whose investigations are based for the most part on necropsy material. Although such work as that of Randall and the anatomic studies of Lowsley are exceedingly valuable in demonstrating beyond peradventure that vesical obstructions other than the pure adenomas and so-called hypertrophies frequently exist, nevertheless, my own clinical and pathologic observations seem to be in accord rather with the occasional clinical findings of other authors, who report true stenosis of a fibrotic nature at the internal urethrovesical outlet. Although other forms have been encountered, they all have this in common: that an essentially fibrotic or inflammatory fibrotic lesion occupying the internal vesical sphincter, and the periurethral intraprostatic region is always present, even though accompanied by other changes.

I do not feel at liberty to express myself definitely regarding the etiology, nor do I wish to discuss in detail the nature of the processes, whether they are purely recessive and of the involution type, degenerative, or arteriosclerotic in cases of the fibroses, or induced by contiguity from the prostate and sexual adnexa, or by metastatic paths in the cases of the inflammatory varieties.

My purpose is rather to demonstrate how extensive is the involvement of adjacent parts in these sphincteric lesions, and to show what varieties of pathologic processes are encountered, for the reason for the surgical

Fig. 3.—Inflammatory type of contracture.

operation that I recommend is wholly based on the nature of my pathologic findings.

PATHOLOGIC CLASSIFICATION

A simple and satisfactory grouping of my seventeen cases divides the material into three classes: (1) fibro-

sis (eight cases); (2) fibrosis and inflammation (four cases), and (3) fibrosis associated with adenomas or fibromas, or with infiltrating adenomas (five cases).

Fig. 4.—Inflammatory sheath formation plus fibrosis.

The Fibroses.—At operation, with the bladder opened suprapubically, we encounter the following evidences of regional alterations in and about the internal sphincter:

Visually, the striking abnormalities are an unusually small internal vesical orifice, and the presence of a horizontally situated transverse prominence (median bar) in the situation of the postero-inferior lip of the sphincter, neither of these being essential for the existence of a contracture of the neck of the bladder, since the latter may occur in the form of extensive and diffuse rigidity of the sphincter and prostatic portion of the urethral channel, the sphincteric ring being seemingly patent. When a bar is well developed, it may be exaggerated by edema or by enormously congested capillaries and veins, or it may involve merely the floor of the vesical orifice or extend laterally for varying distances, in some cases being truly eccentric and almost laterally placed.

Often a distinct shortening of the sagittal trigonal distance, with transverse plication of the retrosphincteric area will be appreciated, a furrow separating this interureteric bar from the vesical orifice. When the median bar is well developed, or when edema and marked vascularization are intense, the aspect of a congested and inflamed vaginal cervical ostium is simulated.

In other cases when a diffuse fibrosis of the prostate is an attendent lesion, in the group that is often suspected as prostatic carcinoma, there is on the contrary a distinct mound in the distal trigonal area, although no true fibro-adenomas or even fibromas may be present.

The tip of the index finger introduced into the internal vesical orifice finds a hard, infiltrated, annular band or fibrous ring, effectually preventing its introduction into the urethra. When force is employed, the engagement of the posterior urethra is at once followed by tearing of the outlet, most frequently at the roof of the neck.

When the coarctation of the sphincter is but slight or doubtful, the tissues of the posterior urethra as well as the sphincter will be appreciated as having been converted into a fibrotic, hard sheath that reveals none of that resilience and elasticity so characteristic of the normal urethrovesical outlet. Or, in addition to these lesions, small areas of increased density may be palpated, these being manifestly due (as sections show) to multiple discrete fibromatous nodules.

As to the situation and extent of the lesions, these may be described as being the submucous tissue of the internal sphincter, the sphincteric muscle itself and the periurethral tissues of the posterior urethra usually behind the verumontanum. The depth or amount of centrifugal involvement varies considerably, so that histologically, as well as objectively with the palpating finger, we can readily detect a superficial and deep form, depending on whether the structure of the prostate itself and the tissues even beyond the sphincter suffer in the process. In a sense and in truth, all the "contractures" may be regarded as being deep lesions, since the submucosa and sphincteric muscle are always affected. But when, in addition to this, tissues at a

Fig. 5.—Chronic inflammatory sheath.

considerable distance from the urethra are inseparably bound up in the pathologic lesion, the unusual extent of infringement on the integrity of the vesical outlet can be both histologically and surgically recognized.

Fig. 6.—Inflammatory sheath plus hypertrophy.

The Microscopic Lesions.—The material obtained for study comprised a pyramidal piece (or wedge) of tissue excised at suprapubic operation in such a fashion as to ablate the greater part or whole of the floor of the internal sphincteric ring, the apex of the pyramid lying in the prostate, its distal end just above the verumontanum, and its proximal side being cut transversely just beyond the sphincteric margin in the trigon. It was attempted to obtain as large a section, in a sagittal sense, as possible, one border of the section being covered with mucous membrane.

Lesions in the Pure Fibroses.—In making arbitrary divisions for purposes of clarity and possible clinical grouping, it must be again emphasized that we *may* be dealing with histologic pictures that, although seemingly of degenerative, involutive or atrophic type, are in reality in some, or possibly in all instances, the end-product of antecedent active inflammatory processes. This is not at all likely in view of the histories, the clinical course, the cystoscopic and urinary findings, and the microscopic architecture of the tissue; still, it is a possibility that cannot be excluded in all cases.

Fibrosis, as seen in the sections of our cases of contracture of the neck of the bladder, is of various types. It may be described, according to its disposition and its relation to the muscular bundles, as perifascicular or intrafascicular. We may consider it, according to the type of tissue, as either represented by well developed connective tissue in the intermediate stages of maturation, or as evidenced by the presence of an inflammatory process.

In general, the fibrotic replacement of muscle fibers of the sphincter is striking, the latter muscle being normal in thickness, hypertrophied or atrophied. Usually the diffuse nature of the process is noteworthy, the muscle bundles being often widely separated by either dense or at times edematous connective tissue. The latter type is more frequently disposed in the neighborhood of the mucous membrane. Figure 1 illustrates the extensive invasion of the muscle with connective tissue in a case of true fibrotic contracture, there being nowhere any evidences of inflammation, the sphincter tearing when the finger was forcibly made to enter.

Atrophy, disappearance of, and degeneration of muscle fibers can be observed going on *pari passu* with the proliferative process of the connective tissue. The process usually implicates the greater part of the sphincter, but may be associated with evidences of recent inflammation (secondary) or with deep fibrosis, much of the prostate gland being invaded, or with the formation of a sheath of sclerotic tissue extending far distally in the urethra (even beyond the verumontanum), or finally with multiple minute submucous or intraprostatic fibromas.

For the most part, it is the sphincteric disorganization that makes for the coarctation of the urethrovesical outlet in these cases; but there is the interesting type just referred to, in which a veritable sheath of fibrotic tissue lying between the mucosa of the supramontane urethra (between the sphincter and the verumontanum) forms a cylindric narrowing in this region.

Fig. 7.—Diffuse glandular infiltration of sphincter with fibrosis (mixed form).

Associated with this lesion, multiple minute fibromas, submucous and intraprostatic, may give the palpating finger the impression of a carcinomatous prostate.

Another striking example of atrophic prostate associated with arteriosclerotic fibrosis of the sphincter is

well depicted in Figure 2, in which the proliferation of sclerotic vessels is a feature.

Summing up briefly the types of fibroses, we find the pure fibroses of the sphincter, those accompanied

Fig. 8.—Intense fibrosis with glandular infiltration (mixed form).

by some recent inflammation, those with deep fibrous involvement of the prostatic tissues, those complicated by a sclerotic connective tissue submucous sheath in the posterior urethra, by fibromas, and the arteriosclerotic variety (Table 1).

TABLE 1.—GROUPING OF PATHOLOGY OF CONTRACTURE OF NECK OF BLADDER IN SEVENTEEN CASES

Case	FIBROSIS
1. Se.	
2. Ma.	
3. W.	Plus recent inflammation
4. Am.	Plus some inflammation
5. Al.	Deep fibrosis
6. R.	Deep fibrosis
7. Hy.	Sheath and fibromas
8. Sam.	Arteriosclerotic

FIBROSIS AND INFLAMMATION	FIBROSIS AND ADENOMA OR INFILTRATING ADENOMA
Case	Case
9. St.	13. Bl.
10. Mc.	14. Si.
11. San.	15. Sp.
12. D.	16. He.
	17. Ba.

Fibrosis and Inflammation.—Is is in this variety particularly that it is difficult to find convincing argument for or against the primary nature of the inflammatory process. Careful pathologic and clinical study has given justification for the assumption that an inflammatory process is responsible for many of the cases of contracture, and that fibrosis of the sphincter and prostatic region may be the sequence of such lesion. Nevertheless, I feel assured, too, that this fact in no way precludes the possibility of the simultaneous occurrence of both lesions, namely, the pure fibrosis and the inflammatory changes. In four of the cases, the predominance of the inflammatory process was noteworthy. Figure 3, taken from a case of marked stenosis of the vesical orifice, demonstrates the extensive inflammatory infiltration of the muscle, and the destruction of the sphincteric fibrosis, proving conclusively the rôle that inflammation plays in the destructive process that disintegrates the muscle, thereby impairing its functional activity. In this case, acute and subacute as well as chronic types of lesions were all exemplified in different sections. Even a cursory glance at Figure 3 leaves a strong impression as to the intensity of the destructive process that has affected the musculature of the sphincter. The sparsity of the muscle fibers standing out prominently against the infiltrating inflammatory background, and the large amount of older connective tissue in other sections afford exquisite demonstrations of the lesions.

In this case we found, first, large zones in which no sign of muscle tissue could be detected with a low power magnification, inflammatory tissue and disintegrated muscle fibers being the substituting elements; secondly, areas in which muscle fibers were widely separated by larger collections of inflammatory cells, and, thirdly, areas of old connective tissue which indicate an old process and which separate the bundles rather than the individual muscle fibers.

In cases such as these, there can be no question as to the inflammatory nature of the lesion.

Another variety of inflammatory contracture is illustrated by three other cases (Figs. 4, 5 and 6), in which

Fig. 9.—True fibroma and adenoma, the sphincter being involved.

we can study the formation of the sclerotic inflammatory ring (Fig. 4) or of a dense fibrous sheath of greater tubular extent.

In Figure 4 both the recent inflammatory, as well as the old sclerotic, process can be seen side by side. Two types of lesions, chronic and active proliferative, are

presented here, the former manifesting itself in a finished connective tissue product, the latter in an active inflammatory lesion destroying the muscle elements. From a study of the material in this case it would appear that the inflammatory process has had exacerbations and remissions leaving their early recognizable imprint on the musculature.

Even more exquisite an example of inflammatory sheath formation with sclerosis of the sphincter and the development of a fibrotic periurethral envelop between verumontanum and vesical outlet is that depicted in Figure 5. Here, too, there are active and chronic lesions, a slowly developing fibrotic lesion involving the whole sphincteric muscle, a more recent productive inflammation in the muscle, and a still more recent (acute) lesion which may be an extension from the mucous membrane. Just how much influence the process in the mucous membrane has on the production of the deeper lesions it is hard to say. It is conceivable and highly probable that in some of these cases recent infection may add just enough additional infiltration to occlude the sphincteric orifice and produce complete urinary retention.

Another excellent example in which an extensive rigid periurethral and sphincteric inflammatory infiltration is associated with marked muscular hypertrophy is offered in the section photographed in Figure 6.

Fig. 10.—Elevation of bar prior to excision.

Mixed Forms (Fibrosis and Adenoma, or Fibrosis with Glandular Infiltration).—There is another most interesting complex of lesions at the vesical neck that may readily be confused with the so-called hypertrophies of the prostate, which should, however, be separated into a special class, both from the clinical and the pathologic standpoints, namely, the group in which concomitant glandular infiltration or submucous adenomas play an important part in the pathologic product. These may be divided into one variety with discrete fibro-adenomas, and another in which there is a diffuse infiltration of the muscle of the sphincter, either with glandular proliferations from the middle lobe or of subcervical origin.

Fibrosis with Discrete Adenomas.—At first glance, it would appear difficult to meet the criticism that fibrosis with discrete adenomas is pathologically equivalent to and indistinguishable from the so-called hypertrophies or adenomas. A study of the cases in point reveals, however, that both clinically and histo-anatomically there is enough difference to warrant the division into separate classes. Occurring frequently in very young adults, the contractures associated with minute precocious adenomas are characterized histologically by a preponderance of fibrosis with but minute adenomatous proliferations, the latter being in my experience of unusually insignificant size, even though the material was obtained from elderly individuals. That the extensive fibrosis also present may be a deterrent to the rapid growth of the adenomas seems possible and even likely. Theoretically, it is conceivable that a case of contracture of long standing, with small precocious adenomas in a young man could develop subsequently a picture in which adenoma and contracture play an equal rôle. Only a few such cases have come to my notice. When the two lesions have progressed hand in hand for years, we regularly find at the operating table that the fibrosis predominates, so much so that I do not hesitate to group these cases with the contractures.

The fibroses with discrete adenomas do not, in my experience, tally with the subtrigonal and subcervical glandular hypertrophies of other authors (Lowsley and Randall). For I find, first, that the fibrotic sphincteric alterations are the essential lesions, and, secondly, that the adenomas are irregularly distributed under the mucosa, in the posterior urethra or prostatic region, or at any portion of the sphincteric ring. Hypertrophies of Albarran's and Holmes' glands do occur, it is true; but unless associated with marked sphincteric fibrosis, they must be relegated to the class of hypertrophies or adenomas of the prostate. In short, localized glandular neoplastic formations which complicate sphincteric fibrosis may form a part of the total lesion, may exaggerate the rigidity of the vesical outlet, and may even contribute in offering an additional obstacle to the outflow of urine. ***They must not be regarded as the essential lesions.***

The Infiltrating Adenomas.—Finally, I may call attention to another variety of mixed lesion, which, as far as I know, has not been described, namely, a diffuse glandular invasion of the sphincter by noncircumscribed elements. Considerable disorganization of the muscle may be caused thereby, and there is regularly associated with it a very marked fibrotic process, often with periacinar inflammation (Fig. 7). An example of more intense connective tissue change coupled with infiltrating adenoma is depicted in Figure 8, in which there were also some minute discrete adenomas. Interesting for comparison is the photomicrograph shown in Figure 9, which is a sagittal section through the floor of the sphincter and prostatic urethra in a case of true adenoma or "hypertrophy." Here the sphincter, although compressed and displaced, is still intact and is not fibrotic, the neoplastic formations being represented by a beautifully encapsulated fibroma, and another adenoma arising in the middle lobe region. Under the mucosa of the posterior urethra are two minute fibromas.

THE AUTHOR'S OPERATION FOR CONTRACTURE OF THE NECK OF THE BLADDER

Although the mere ablation of a subcervical adenoma would suffice to cure such a condition, the lesions in cases of contracture are too extensive and deep to be materially influenced by anything but a more radical operation. With a view to relieving the stenotic sphincter and to enlarging the rigid inflammatory sheath, the following simple operation was devised and carried out with some beneficial results during the last three or four years. Possibly similar procedures have been used now and then by other surgeons:

The bladder neck is exposed in the usual way by the suprapubic route. The peritoneum is pushed well out of the way and an adequate vertical incision is made into the anterior wall of the bladder, but no larger than is necessary for the proper introduction of retractors and for the exposure of the sphincteric region. With adequate illumination, the sphincteric region is found. It is first viewed carefully, the presence of the transversely placed ridge or bar being noted. Such bars may be true bars, owing to the invasion of this region by glandular and fibrotic or inflammatory tissue, or pseudobars, due to edema with inflammation of the mucous membrane and dilatation of large veins. A small submucous adenomatous lobule should not be regarded as a *true bar.*

One then attempts to insert the finger, or at least to measure the size of the internal sphincteric ring, which in most cases will be found to be sclerotic, tightly contracted, too small for the tip of the finger to enter. If possible, the finger is forced through the sphincteric ring, which procedure is usually followed by the tearing of the anterior commissure, the latter being involved in the sclerotic and inflammatory process in most of the cases. The inferior or posterior lip of the sphincteric region is then grasped (Fig. 10) with long angulated many-toothed volsella or fixation forceps, drawn upward and toward the head of the patient, the floor of the sphincter being thus put on the stretch, and brought into better view. The amount of tissue that is thus grasped should depend on the nature of the lesion. When the lesion is very deep, when there is a great deal of fibrous tissue possibly accompanied with some adenomatous infiltration, a larger bite will have to be taken than when we are dealing with a case in which an inflammatory sheath surrounds the sphincteric region. It is well in most cases to obtain a sufficient amount of tissue in the grasp of the forceps, so that the next step can be carefully carried out without losing the grip on the tissue that is to be excised.

A long, sharp knife is then employed to remove a large pyramidal piece of the sphincter. The base of the pyramid is formed by a portion of the bladder floor extending from the inferior sphincteric margin backward for a centimeter along the apex of the trigon. Its lateral walls are limited by the lateral margins of the sphincter, and its apex lies in the fossula prostatica not far from the verumontanum. The incision is carried downward for at least 1.5 cm. or more, through the sphincter and into the prostate. The excision can usually be made so as to remove an intact piece, if a sufficiently sharp knife is at hand, and if the traction on the sphincteric region is not too great.

The finger is then made to enter the sphincter once more, in order to dilate this as well as the supramontane urethra, a careful exploration being made for the presence of any complicating adenomatous or fibrotic neoplasms.

Sounds are then passed through the urethra, the dilatation being carried to at least 32 French.

If the bleeding is active, a small packing may be placed into the sphincteric region and posterior urethra, and carried through the suprapubic wound alongside of the drainage tube. When the bleeding is profuse, it is best to place one or two catgut hemostatic sutures through one or both lips of the wound area, inserting the needle so that the edges are not brought together. The mucosa must not be included, the stitches entering and emerging on the same side of the divided area. The bladder is then closed over a moderate sized suprapubic rubber drain.

OPERATIVE RESULTS

Of the seventeen cases in which the diagnosis was confirmed by thorough pathologic studies, there were thirteen good results. Two could be regarded as failures, one in a case of complete retention of urine, and the other in a highly neurotic individual. Two other patients were merely improved, although one of these is almost free from symptoms. The first, a man with intense chronic symptoms has observed marked diminution of his urinary frequency, although he can in no sense be regarded as cured, while the condition of the second patient is distinctly ameliorated (Table 2).

TABLE 2.—RESULTS OF OPERATION

Name	Age	Date of Operation	Result
A. S.	29	7- -17	Excellent
B. M.	67	1-30-18	Excellent
L. W.	50	1-29-19	Good
J. A.	38	6-13-18	Excellent
M. A.	59	3-11-18	Good
M. R.	62	10- 6-17	Excellent
L. H.	57	4-16-19	Improved
S. S.	62	12- 7-17	Excellent
J. S.	62	1- 2-18	Good
M. M.	50	7- 7-17	Excellent
A. S.	52	11-14-17	Poor
M. F.	48	2- 4-18	Improved
J. B.	40	9-15-17	Excellent
M. S.	28	4-16-17	Poor
S. S.	60	1-26-18	Excellent
G. H.	41	9- 8-15	Excellent
J. B.	69	1-28-19	Good

In short, there were at least thirteen good results out of seventeen, or about 75 per cent. Most astonishing was the "cure"—for thus the patient styles it—obtained in a man (J. A.) who had had complete urinary retention for five months, who had been pronounced as having a paralytic bladder and regarded as incurable by competent urologists, and who acquired complete restoration of function after the excision of the inferior sphincteric margin.

ABSTRACT OF DISCUSSION

DR. HUGH H. YOUNG, Baltimore: We are indebted to Dr. Buerger for a very clear presentation of this very important subject. Attention was called to this condition by some of the very early urologists in America, but for many years it was lost to sight, except, perhaps, to a very few men. It is unquestionably a far more common condition than is usually thought to be the case. Many young men do not realize that they have obstructions from which they get great relief after operation. The condition, as we have found it, is more varied and more multiple than has been described by Dr. Buerger. In more than 200 cases we have operated and found lesions exactly such as he found, and many other types of lesions besides. We found cases that are congenital, unquestionable muscular hypertrophies, in addition to the fibroid type. More important than all is the fact that we found them situated in other places, around the prostatic orifice, and not posteriorly, so that the operation suggested here would not, in my opinion, rectify many of the cases one sees. It has been a mooted question for many years what we should call this condition. All sorts of names have been suggested. No one name will cover all conditions. Contracture of the neck of the bladder certainly does not meet the emergency. Whether an enlargement is a contracture or not I cannot say. Dr. Buerger has devised the best way of getting specimens. He has given us a good pathologic study. As to the necessity of doing that operation, I am in doubt, because removing the posterior part, and possibly part of the

trigon, of that region, will not cure the condition in many cases. We have to make multiple excisions, very frequently anterior, not infrequently posterior, and laterally as well. The punch operation, has been very satisfactory in a large majority of cases, but more than one cut is necessary, and an anterior cut is often as necessary as the posterior. The amount of tissue that can be removed in that way is really very extensive. It is certainly better than the rongeur operation done through the suprapubic region. Recently we modified the operation somewhat by the use of a spear which is first introduced and prevents the tissue from slipping out. That has made the operation more effective where there is a bar, enlargement, hypertrophy or valve. A careful cystoscopy, feeling with the finger in the rectum, is very important in diagnosis. Of course, the punch operation may be followed by hemorrhage. It is possible to stop it by the use of a retention catheter.

Dr. William C. Quinby, Boston: I have been studying the material from this type of case by means of special staining methods in an endeavor to differentiate the pathologic elements present, and from this I quite agree with what Dr. Buerger says in regard to the wide variation of pathologic tissue found in the region of the internal bladder sphincter. The symptom which this difficulty causes is almost invariably of an obstructive nature. It is rare, in other words, to find symptoms due to inflammatory processes, of which dysuria is a prominent example. Nevertheless, I feel from examination of the histologic material that the most probable cause for the sclerosis and fibrous tissue present is a previous inflammation. For, as Dr. Buerger has shown, one does not get the material until the inflammation has passed, when all that remains is the result of the storm that has gone before. Those cases where glandular elements and hypertrophies are found are not under consideration for the moment because these are more analogous to the middle lobe hypertrophies. In regard to operation: I have recently been following the type of operation which Dr. Buerger described. I have used Dr. Young's punch, and also Dr. Braasch's punch, and while by both of these instruments the patient can be made well, my endeavor has been actually to palpate the condition at the neck of the bladder and see by ocular inspection what it is. An operation may then be planned according to what is found. I came to this conclusion independently, finding, as Dr. Young has said, that frequently these obstructive conditions are not on the floor of the urethra, or in the prostatic urethra, but are either lateral or anterior. I feel that I can do much toward freeing the neck of the bladder if, after dilatation of the posterior urethra, I can feel the tissues between the index finger and thumb, and thus estimate the degree of distensibility of the internal bladder sphincter. When it is definitely indurated and sclerotic, I remove it. Sometimes this may only involve one small area, such as would be represented by one centimeter or one half a centimeter; sometimes the necessary removal is more extensive. Therefore, I feel that until I learn more about what the exact underlying pathologic condition is, I prefer to see it and examine it by the suprapubic operation rather than through an intra-urethral instrument.

Dr. Oswald S. Lowsley, New York: I wish to congratulate Dr. Buerger on calling our attention to this procedure. In the past we have paid too little attention to the small lesions at the vesical orifice. Dr. Buerger's operation is decidedly applicable to those cases in which we formerly used Chetwood's operation. By this procedure you do not destroy both sphincters. One sphincter can be destroyed, provided the other is not injured; then no incontinence will result. Destruction, even temporary, of both sphincters, may result in permanent incontinence. Dr. Buerger recently reported a case of stricture following his operation. We had one at Bellevue Hospital following an operation by Dr. Keyes. I imagine that stricture occurred because Dr. Buerger sutured the neck of the bladder up after his operation. If not, I would like to have him explain the reason. The stricture we had was very tight, and quite a serious affair. It required a great deal of effort to relieve the situation. Dr. Keyes removed a sclerotic prostate. We do not yet know whether the man is cured. I operated on one patient, using this method, with rather a bad result, but that was not entirely the fault of the operation; it was probably the fault of the bad general condition of the patient. The wound did not heal rapidly and broke down suprapubically repeatedly, in spite of the fact that the drainage tract was high. This patient should not have been operated on by this method. I am still very enthusiastic about the Young punch operation. I think in most cases, except a few selected ones, the punch does all that is required, whether the tumor be situated on the floor of the vesical orifice or in the roof.

Dr. H. G. Bugbee, New York: About eight years ago I attempted to burn out this constricting tissue with the high frequency spark and found that when the stricture was caused by fibrous tissue it took too long a time to carry out this method and that the incisions were not deep enough. For the past three or four years I have been using the punch with complete satisfaction. I have had two recurrences. I did not make enough excision. The second time I took out sections anteriorly, and distinctly felt the ring give way. In both cases we have obtained excellent results. Several of these patients had such a hard prostate that I felt, before operating, that they probably had a carcinomatous ring, but the pieces we removed with the punch showed only fibrosis. The punch is an exceedingly satisfactory operation, in these cases where the constriction is due to a ring of hard fibrous tissue. I have not had any serious complication from hemorrhage. I use a large lisle thread, straight or single catheter, and I occasionally clear out the catheter during the first twenty-four hours. This is all that is necessary. I rarely leave it in three days.

Dr. Alexander Randall, Philadelphia: Dr. Buerger's illustrations picture very accurately the fibrosis and the changes it occasions at the vesical orifice, with the contracture, the drawing together, or pinching together, of the vesical trigon, and that deep cleft formation across it. This is one form of obstruction. But there is a second direction in which this same fibrotic process can exert itself, and this he does not picture. This second form seems to exert its influence entirely within the prostatic urethra. The same contracture occurs with, however, a shortening of the distance from the vesical orifice to the verumontanum. The trigon is unchanged, and the suprapubic picture is unchanged, which is probably the reason Dr. Buerger has missed it. It is best appreciated by the study of postmortem specimens, and when once understood can be diagnosed clinically by cystoscopic study. Dr. Quimby's remarks about the careful study of the orifice before deciding on the form of operation are pertinent, though I feel that this is done better by careful cystoscopic study before operation is considered, than at the time of operation. Dr. Buerger's glandular hypertrophy type of obstruction, which his illustrations show very clearly, is the third form of obstruction, and as he has said originates from an entirely different pathologic process. In speaking of the difficulty of selecting a name for this clinical condition, whose pathology is so varied, and yet whose symptomatology is always the same, we must be careful not to select a name essentially descriptive of some special pathologic process, such as "contracture" or "sclerosis," which does not cover the need when we know that frequently inflammation or hypertrophy are the causative factors. For this reason I have always adhered to the original title given by Guthrie of "median bar formation," a clinical, not pathologic, term under which the various known types or forms can be grouped. Zuckerkandl often spoke of these conditions as prostatic hypertrophy in miniature. I realize that Dr. Buerger has purposely passed over the question of the cause of this fibrosis, however, I would like to ask him if he will give us his ideas as to why it takes on this peculiar, localized, limited pathologic process, and whether he has found it associated at any time with fibrotic changes elsewhere in the body.

Dr. Leo Buerger, New York: I am sorry that some of the speakers still retain the impression that I believe that neoplastic tissue forms an obstacle and that this is the cause of the symptoms in these cases. On the contrary, I believe that

the clinical and secondary pathologic phenomena are produced by coarctation of the sphincter, and that complicating fibro-adenomas obstructive lesions play but a subsidiary rôle. I wish to emphasize that the presence of a bar, or fibro-adenomatous nodule is not essential, for neither lesion is present in some of the worst cases. The essential thing is the fibrosis, be it inflammatory, involutional or arteriosclerotic in nature in and about the sphincteric region and adjoining prostate. I believe there is often a fibrosis of this whole sphincteric and prostatic region and it is this that permits urine to leak into the posterior urethra and give symptoms of urinary frequency. When doing my operation by which the sphincteric floor is excised not because it presents an obstructing obstacle but because it is anatomically the only mobile part of this region that lends itself to attack, you will find that as soon as you force your finger into the sphincter, a tear will occur which is not so in the normal. The sphincter floor is the proper place for excision also, because it gives access to the fibrotic prostate and permits of the removal of adventitious small prostatic adenomas and fibrotic tissue. Regarding Dr. Randall's question as to the nature of fibrosis, I believe that the true fibroses are of two kinds pathologically, primarily inflammatory and primarily fibrotic. The first are the result of old or still active inflammatory processes, the second are due either to arteriosclerosis or the accompanying degenerative alterations that go with the involution changes occurring in this region.

TACHYCARDIA FOLLOWING INFLUENZAL PNEUMONIA *

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In many of the patients at Camp Travis, the pulse rate increased from 80 to 100, or even 120, per minute during the convalescing period of influenzal pneumonia. The pulse curve in these men showed that this increase in pulse rate began at the time they were first allowed on their feet. Frequently it was so marked that they were ordered back to bed. Others who had been discharged from the hospital to quarters or duty were returned for observation. Some complained of shortness of breath, weakness, dizziness, and palpitation of the heart on exertion. The point of especial interest was whether the influenza had produced some organic disease of the heart, such as myocarditis, or had merely served to bring into the open tachycardias that otherwise might have gone unnoticed. This report is based on the study of ninety-five such men. They were observed from the standpoint of (1) the myocardium and (2) the autonomic nervous system.

METHOD OF STUDY

The histories of the men were carefully taken down. The points considered were (1) the family history, as relating to alcoholism, neurosis, insanity and tuberculosis; (2) general health in childhood, as pertaining to illness with acute infectious diseases, and response to games; (3) occupation in civil life, whether sedentary, light, moderate or heavy, and its effects; (4) military training, in respect to its duration, and the men's response to drill, hikes and double time, and (5) the present symptoms, with regard to their date of onset and the occasion under which they arose. The taking down of the history was followed by a physical examination and the routine laboratory work. In the physical examination, special attention was given to the condition of the lungs and the heart. Those men in whom there were evidences of delayed resolution were transferred to other wards and not included in our figures. In none was there any departure from the normal in the urine, blood counts (including the differential) or in the blood pressure readings.

* From the Medical Service, Base Hospital, Camp Travis, Texas.

ANALYSIS OF CASES

Irritable Heart.—Thirty-six patients (37.8 per cent.) of the ninety-five studied gave a history of having had the symptoms of an irritable heart prior to their entrance into the army. In every instance these symptoms had been markedly aggravated by their recent illness. They were the men who, after having been discharged from the hospital to quarters, were returned because of the marked tachycardia, shortness of breath, weakness, dizziness, and palpitation of the heart on exertion.

These men were analyzed from the standpoint of possible etiologic factors that existed in civil life. The results are shown in the accompanying table. Twenty-one (58.3 per cent.) were, or had recently been, hookworm positive. Four (11.1 per cent.) had the physical and the roentgen-ray findings of a chronic inactive pulmonary tuberculosis. Two of these tuberculous men were also positive for hookworm. Two (5.5 per cent.) gave a history of having had malaria practically every fall of their childhood life. They stated that they had always been weak. Three (8 per cent.) had the physical and the roentgen-ray findings of chronic bronchitis. This condition, from the history, had been present for years; tuberculosis was suspected but not proved. Five (13.9 per cent.) had families in which two or more members were highly neurotic.

TABLE 1.—HISTORY OF THIRTY-SIX PATIENTS WHO HAD HAD SYMPTOMS OF AN IRRITABLE HEART

Affection	No. of Cases
Hookworm	21
Chronic inactive pulmonary tuberculosis	4
Chronic malaria in childhood	2
Chronic bronchitis	3
Alcoholism	1
Neurotic families	5
Total	36

Hypersensitive Nervous System.—Thirty-eight (40 per cent.) of the ninety-five men studied had what may be called a hypersensitive nervous system. We were unable to find a physical basis for their tachycardia. They were of a nervous temperament and responded readily to any external stimuli. They had a marked vasomotor instability, perspired freely, and in all respects, from a physical standpoint, presented the symptoms of an irritable heart, except that they had a greater tolerance for work. A majority of them had, to their knowledge, a rapid pulse in civil life. Not a few of them had been held up temporarily by the examining board at the time of their entrance into the army. They, however, had had no symptoms following strenuous exercises and had been admitted. They had all responded well to their military service. Following influenza, however, a few complained of weakness, shortness of breath, and palpitation of the heart on exertion, for a period of from five to six weeks.

Hyperthyroidism.—Twenty (21 per cent.) of the ninety-five patients studied are under observation for hyperthyroidism. The results of this work will be given in a later report.

Organic Heart Disease.—The diagnosis of acute myocarditis was made in only one instance in the ninety-five cases studied. The course and physical findings of the patient differed markedly from that of

the other men. He had a pulse rate of 140 per minute, a definite cardiac enlargement, and a blowing systolic murmur at the apex which was transmitted to the axilla. These findings were associated with shortness of breath, palpitation of the heart, and a feeling of exhaustion on exertion. These symptoms disappeared on rest in bed. The left cardiac border receded to the midclavicular line, the murmur decreased in intensity, and the pulse rate came down to normal.

This was in sharp contrast to what occurred with the remaining ninety-five men. In them the pulse rate did not decrease with rest in bed, nor did their symptoms improve under these circumstances. They were given graded exercises regardless of their tachycardia. Had their symptoms been due to a weakened myocardium, it hardly seems possible that they would have subsided on the type of exercises that was given; for a man's response to exertion may be regarded as the best test of his cardiac efficiency. The facts that the pulse rate of these men decreased on exercise, and that there was no change in the cardiac findings from the standpoint of murmurs and enlargement, justified us in believing that there was no organic heart disease.

GRADED EXERCISES

All the men except the one with acute myocarditis were given the graded exercises, as outlined by Lewis.[1] They were assured that they had no cardiac disease and would in time be as strong as ever. At the end of four weeks, all with the exception of four were getting a thirty-minute period of strenuous exercise twice daily, and in addition doing from a 3 to a 4 mile hike. They contended that they felt as well as ever. The pulse rate had decreased, and all had gained in weight. Some were heavier than they had ever been before in their lives. Those men who had had irritable hearts in civil life gained the most slowly. Greater care was taken in advancing the grade of their exercise. The four men who had the physical findings of a chronic inactive pulmonary tuberculosis were even slower than the rest in regaining their tolerance for work. Possibly, in many of these men there would have developed a severe type of irritable heart had they not been carefully handled. In this connection it should be added that those men who had recently been hookworm positive had had treatment. This might have been a factor in the rapid increase in strength of some of these men.

REPORTS FROM OTHER CAMPS

The necropsy reports from other camps are in accord with our findings. They are uniform in that few cardiac complications were observed. Hall, Stone and Simpson,[2] at Camp Logan, reported no cardiac complications in thirteen necropsies. Blanton and Irons[3] observed one case of acute myocarditis and three of acute dilatations in 123 necropsies at Camp Custer. Synnott and Clark,[4] at Camp Dix, noted no cardiac complications other than a slight dilatation of the right heart. The number of necropsies was not given. Friedlander, McCord, Sladen and Wheeler,[5] at Camp Sherman, reported twenty-three necropsies, noting slight dilatation of the right heart as the only cardiac complication. Nuzum, Pilot, Stangl and Bonar[6] saw one acute dilatation of the right heart in forty necropsies at the Cook County Hospital, Chicago. Strouse and Bloch[7] reported 500 cases, emphasizing the infrequency with which the myocardium was involved, as judged by clinical evidence. The reports of a detailed study of the morbid anatomy by a number of German authors,[8] based on the study of 174 necropsies, bear out the findings in this country. Twenty-five necropsies were performed at Camp Travis. Dilatation of the right heart was recorded in six instances, and in these hearts there was also hypertrophy of the left ventricle. This would indicate that previous damage to the heart muscle existed. The objection might be raised that microscopic examinations were not reported. It is possibly true that pathologic changes sufficient to cause serious disturbance in later life could have been easily overlooked by the naked eye. Those hearts that we studied microscopically at Camp Travis showed no significant pathologic condition.

ATROPIN TEST

The inhibitory action of the vagus was tested in fifty men by the administration of atropin. This was given in doses of $\frac{1}{33}$ grain, as described by Morris,[9] and later by Mason,[10] in their work on typhoid. The patients were put to bed in a quiet room and allowed to remain until the pulse rate became constant. They were then given $\frac{1}{33}$ grain of atropin in sulphate hypodermically in the upper arm. The reaction began usually within from fifteen to twenty minutes, and lasted from forty to sixty minutes. The height of the reaction was reached about forty minutes following the injection. Mason states that in most normal persons the pulse rate increases from twenty to forty per minute following the administration of $\frac{1}{33}$ grain of atropin. Nineteen of the fifty men given the test had an increase in pulse rate of from 1 to 12 over the initial rate; twenty-one, from 20 to 30, and the remaining ten, from 30 to 40. According to the work of Morris and Mason, the results in the nineteen instances possibly suggest a hypotonic vagus nerve. Some of these men, however, had had, to their knowledge, a rapid pulse in civil life. In these cases we are not justified in assuming that the recent illness had had much influence on the action of the vagus nerve. Even in the remaining cases we have no basis for assuming that the action of the vagus nerve resulted from the influenzal pneumonia. It might have resulted from some infection in childhood, as diphtheria, or even have been a normal response for them.

EPINEPHRIN TEST

The same fifty men were given threshold doses of epinephrin. The method employed was that devised by Goetsch.[11] The men were put to bed in a quiet room. The pulse and blood pressure readings were taken

1. Special Report of the British Medical Research Committee, Series 8, London, 1918.
2. Hall, J. N.; Stone, M. C., and Simpson, J. C.: Epidemic of Pneumonia Following Influenza at Camp Logan, Texas, J. A. M. A. 71: 1986-1988 (Dec. 14) 1918.
3. Blanton, W. B., and Irons, E. E.: A Recent Epidemic of Respiratory Infection at Camp Custer, Mich., J. A. M. A. 71: 1988-1992 (Dec. 14) 1918.
4. Synnott, M. J., and Clark, Elbert: Influenza Epidemic at Camp Dix, J. A. M. A. 71: 1816-1821 (Nov. 30) 1918.
5. Friedlander, Alfred; McCord, C. P.; Sladen, F. J., and Wheeler, G. W.: The Epidemic of Influenza at Camp Sherman, Ohio, J. A. M. A. 71: 1652-1656 (Nov. 16) 1918.
6. Nuzum, J. W.; Pilot, Isadore; Stangl, F. H., and Bonar, B. E.: Pandemic Influenza and Pneumonia in Large Civil Hospital, J. A. M. A. 71: 1562-1565 (Nov. 9) 1918.
7. Strouse, Solomon, and Bloch, Leon: Notes on the Present Epidemic of Respiratory Diseases, J. A. M. A. 71: 1568-1571 (Nov. 9) 1918.
8. Influenza: Abstracts of Foreign Literature Compiled by British Medical Research Committee: J. A. M. A. 71: 1573 (Nov. 9) 1918.
9. Morris, F. A.: Brit. M. J., 2: 717, 1916.
10. Mason, E. H.: Atropin Test in Typhoid Fever, Arch. Int. Med. 21: 1 (Jan.) 1918.
11. Goetsch, E.: Newer Methods in the Diagnosis of Pathologic and Clinical Thyroid Disorder, New York State J. M. 18: 259 (July) 1918.

until they became constant. An injection of 5 c.c. of a 1:1,000 solution of epinephrin was made into the deltoid muscle. Records were made of the pulse and the blood pressure every two minutes for ten minutes, and then every five minutes for one hour. Following this, observations were made at intervals of ten minutes for one-half hour.

A reaction was not considered positive unless there was an increase in the pulse rate and the blood pressure of more than from fifteen to twenty points, accompanied by marked tremor of the hands, nervousness, palpitation of the heart and increased arterial pulsation.

Twenty-five of the fifty men were sensitive to small doses of epinephrin. These men had given what is considered a normal reaction to the atropin test. The same factors should be taken into consideration in the explanation of the results of the epinephrin test, as in explanation of those from the use of atropin. The fact that we do not know the reaction these men would have given prior to the influenzal pneumonia will not permit us to draw conclusions from the test as to the effects of this illness on the sympathetic nerve.

SUMMARY AND CONCLUSIONS

1. Ninety-five cases were studied. The diagnosis of acute myocarditis was made in one instance. As far as we were able to determine, organic heart disease was not the basis of the tachycardia in these men.

2. Thirty-six men (37.8 per cent.) gave a history of having had an irritable heart in civil life. These symptoms were aggravated by their recent illness. A possible etiologic factor was found in thirty-one of these cases.

3. In thirty-eight men (40 per cent.) no physical basis was found for the tachycardia. A majority had, to their knowledge, a rapid pulse in civil life.

4. Twenty men (21 per cent.) are under observation for hyperthyroidism. The results of these observations will be given in a later report.

5. Fifty men were given the atropin and the epinephrin tests. The results in nineteen suggest a hypotonic vagus nerve, and in twelve a hypersensitive sympathetic nerve. These men might, however, have given the same reaction to these tests prior to their influenzal pneumonia.

6. The graded exercises were of distinct value in estimating the state of the myocardium and in improving the general condition of these men.

122 South Michigan Avenue.

Deer Fly Fever, or Pahvant Valley Plague.—In recent years there has occurred among the rural population of Millard County, Utah, a disease initiated (according to popular belief) by a fly bite on some exposed surface of the body and manifested by the enlargement of the lymph glands which drain the bitten area and by a fever of a septic type lasting from three to six weeks. The site of the bite and the affected lymph glands become tender and inflamed, and they commonly suppurate. There is marked prostration and the patient is confined to his bed. The first case known to have terminated fatally was reported in 1919. The Surgeon-General of the U. S. P. H. Service detailed Dr. Edward Francis to investigate this new disease. Cultures made on ordinary laboratory mediums from the lesions of animals dying from the disease were negative; but cultures made on coagulated egg yolk yielded a growth of a small nonmotile coccobacillus. These cultures reproduced the lesions of the disease in guinea-pigs. It is believed that this organism is the *Bacterium tularence*, first described by McCoy and Chapin in 1912.

TOXIC JAUNDICE FOLLOWING "INTENSIVE" ANTISYPHILITIC TREATMENT

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With the advent of the so-called intensive treatment of syphilis by the administration of arsphenamin, the subject of toxic jaundice has become one of practical importance. This is particularly so, in view of the fact that, while many hundreds of doses of the drug may be given without apparently the slightest ill effect, there do appear to be conditions under which the drug has a powerful toxic action on the liver cells, and an intense degeneration occurs with fat deposit in the liver and kidneys in fatal cases.

After the administration of arsphenamin, some slight symptoms due to the direct toxic action of the drug are generally produced, such as nausea or vomiting, transient diarrhea, and a temperature rise of 1 or 2 degrees. These symptoms usually last for a few hours, and no others occur. Very infrequently, however, after a period of three or four days, symptoms of a profound toxemia develop. The patient presents an abnormal mental condition: irritability and delirium rapidly progressing to unconsciousness, with perhaps convulsions and Cheyne-Stokes respiration. Jaundice may or may not appear. Death usually results in from two to three days. This accident is liable to occur following a single dose of the drug. This condition is explained by William H. Wilcox,[1] in his Lettsomian Lectures on jaundice, as undoubtedly due to an autointoxication such as occurs in acute yellow atrophy of the liver. This group of apparently delayed symptoms should be carefully distinguished from those of acute arsenical poisoning, in which we have vomiting, diarrhea, skin rashes, etc. When these symptoms occur after the giving of arsphenamin they are probably caused by impurities in the product or by its decomposition.

There is an additional class of cases whose frequency of occurrence we are now recognizing. These occur at variable lengths of time following the administration of large doses of the drug with a short interval of time between doses. In the so-called intensive treatment, from 0.4 to 0.6 gm. are given at weekly intervals over a period of from six to eight weeks. After a rest of one month, the course is repeated.

During the past few weeks we have been able to observe three cases of toxic jaundice, one of which was fatal, following the intensive administration of arsphenamin. All of them occurred in young adult males. All three patients gave a negative history of previous liver involvement, and each was surrounded by every safeguard possible, namely, physical examination, including urinalysis previous to each injection.

REPORT OF CASES

CASE 1.—*History.*—Private P. enlisted in the army at Jefferson Barracks, Mo., Sept. 26, 1916. The date of his exposure to syphilis is not definitely known. The date of the primary lesion is Dec. 25, 1915. Jan. 1, 1917, there is

1. Wilcox, W. H.: Brit. M. J. 1:639 (May 24) 1919.

a record of multpile sores on the foreskin of the penis. There is no record of any secondary lesions. The serum reactions as recorded on the syphilitic register are shown in Table 1. The treatment given, as recorded in the register, is shown in Table 2. The mercurial medication was:

Jan. 1 to April 5, 1917, mercurial inunction, dose 5 gm., time 115 days. During the months March and April, 1919, the patient had thirty rubs of mercurial ointment. The amount in each rub is not given. The arsenic preparation

TABLE 1.—SERUM REACTIONS IN CASE 1

Date	Place	Reaction
Dec. 24, 1916.	Dept. Hospt. Honolulu.....	++++
April 1, 1917.	Dept. Hospt. Honolulu.....	++
July 7, 1917.	Dept. Hospt. Honolulu.....	—
Nov. 26, 1917.	Dept. Hospt. Honolulu.....	++
April 19, 1918.	Dept. Lab. South. Dept.....	+
March 18, 1919.	Base Hospt., Fort Sill, Okla...	++
May 19, 1919.	Base Hospt., Fort Sill, Okla...	—

used was that put out by the government under the name of "arsenobenzol" or "arsphenamin."

The patient was admitted to the post hospital, Fort Sill, Okla., May 2, 1919, aged 23 years. Time of service, two and one-half years. Feb. 6, 1918, a gun exploded and one of the missiles struck the patient in the lumbar region. This produced a severe contusion. The convalescence continued over a period of six months. During this time he complained of pain in the back which was worse at night and when he stooped over. He noticed a decrease in lifting power. The pain had never entirely disappeared. At the end of six months spent in quarters the patient went to work, but kept complaining of pain in his back. From July, 1918, till his admission to the hospital he had in a way been able to stay on duty.

Physical Examination.—On entrance into the hospital, the general condition was good, and aside from a slight tenderness on each side of the second, third, fourth and fifth vertebrae, the patient was marked negative. Temperature, pulse and respiration were normal. The roentgenologic examination of the kidneys, the ureters and the lumbar vertebrae failed to demonstrate any definite pathology.

Clinical Course.—From May 2 to 7, 1919, the patient was under observation on the medical service, and a provisional diagnosis of myalgia of the lumbar muscles was recorded. About May 8, the patient began to complain of severe pain in the left renal area with radiations down along the course of the ureter. A tentative diagnosis of pyelitis was recorded. With the exception of May 4, when the temperature was recorded at 100, there was no rise of temperature till May 23.

May 21, the patient complained of loss of appetite and some nausea, but did not vomit. The pain in the left upper

TABLE 2.—ARSPHENAMIN TREATMENT IN CASE 1

Date		Dosage (Gm., Intravenously).
July 3, 1918.	Arsphenamin.....	0.6
Jan. 28, 1919.	Arsphenamin.....	0.5
Feb. 4, 1919.	Arsphenamin.....	0.6
Feb. 11, 1919.	Arsphenamin.....	0.6
Feb. 18, 1919.	Arsphenamin.....	0.6
March 28, 1919.	Arsphenamin.....	0.4
April 4, 1919.	Arsphenamin.....	0.5
April 11, 1919.	Arsphenamin.....	0.5
April 18, 1919.	Arsphenamin.....	0.6
	Total.....	4.9

quadrant remained unchanged. May 22, the condition was recorded as unchanged. May 23, the temperature was elevated: a. m., 99.2; at 4 p. m., 103; at 7 p. m., 103.3. The patient complained of a chilly sensation, and was more nauseated than on previous days. The patient did not vomit. Other signs and symptoms were negative. May 24, the temperatures recorded were: 6 a. m., 100; 10 a. m., 101; 1 p. m., 103; 4 p. m., 102. May 25, there was no change in the general condition of the patient. The temperature was a little lower than the previous day, a very slight jaundice appearing. May 26, the jaundice was noted as rapidly increasing in intensity. The patient vomited about 6 ounces of dark coffee-ground vomitus. From then on till death the patient continued to vomit at various intervals. The time between the intervals was usually about three to four hours. The amount of the vomitus varied from 4 to 6 ounces. It had the same characteristics as the first specimen. During the morning of May 27, there was no change in the general condition of the patient. The vomiting, however, continued and toward evening the patient started to hiccup. May 28, the jaundice increased and the vomiting was unchanged. The patient complained that he was unable to see more than 3 or 4 feet and distinguish objects definitely. His mentality became sluggish. Now and then, periods of delirium intervened. The patient vomited and hiccuped almost continuously. Blindness became complete. Cold perspiration stood out over the entire body. The patient was in a dying condition. On the morning of May 29 the patient was wildly delirious and completely unconscious. This continued till about 1 p. m., when he died.

The record of the urinary findings on the various dates is shown in Table 3.

The special tests carried out on the urine after the patient developed the jaundice all betrayed the presence of bile. The tests that were carried out for the presence of arsenic were all negative.

TABLE 3.—RECORD OF THE URINARY FINDINGS IN CASE 1

	Macroscopic.			Microscopic.			
Date	Sp. Gr.	React.	Alb.	Sugar	Mucus	W.B.C.	Casts	Crystals
5- 2-19	1.025	Acid	—	—	—?			
5-15-19	1.028	Acid	—	—	+	++	—	—
5-17-19	1.018	Acid	—	—	—	+—	Hyaline	—
5-18-19	1.020	Acid	Trace	—				
5-19-19	1.031	Alkaline	—	—	—	+	—	—
5-20-19	1.035	++	—	—	—	++	—	Phosp.
5-23-19	1.039	+	—	—	—	++	—	—
5-24-19	1.012	Neut.	Trace	—	—	—	—	Phosp.
5-27-19	.040	Alkaline	—	—	—	+++	—	Phosp.

TABLE 4.—WHITE BLOOD CELL STUDY, CASE 1

Date	Total	Polymorphonuclears (Percentage)
5- 2-19	8,800	80
5-20-19	8,600	70
5-24-19	10,200	80
5-26-19	6,800	70
5-28-19	6,400	70

Necropsy.—The pathology will be touched on only as it is considered of a positive nature and in relationship to the diseased condition. Externally there was nothing noticeable except the deep jaundice. On opening up the abdomen it was seen that most of the viscera were studded with small hemorrhagic areas. They varied in size all the way from that of the head of a pin to that of a dime. In the intestine they were beneath the serous coat, while in the kidney and the liver they were beneath the capsule. None had discharged their contents into the abdomen. The liver was about normal in size and of a yellowish mottled appearance much like the so-called nutmeg liver. It was fairly firm, and cut with leather-like resistance. The cut surface oozed blood freely. The capsule was not wrinkled. The left kidney showed an area about the size of a silver dollar that was deep red and contained many coalescing hemorrhages. The stomach, the heart and the lungs were studded with the same type of hemorrhages.

To give in detail the histopathology of the various structures examined would yield very little additional information to that which may be gained by detailing the changes that occurred in the viscus most violently attacked, namely, the liver, and by simply naming the conclusions drawn from the study of the various structures that showed lesions.

The entire structure of the liver was involved to such an extent, and the architecture was so much distorted, that it was difficult to distinguish clearly the various structures concerned in the make-up of the hepatic lobule. It was seen

that certain areas, or rather holes in certain areas, were set off at varying distances from each other. The membrane lining these holes or probable vessels was frayed out and indistinct. Immediately adjacent to this vessel was a zone of rather homogeneous substance that bore a semblance to hepatic tissue. Surrounding this zone was still another zone in a much more advanced stage of degeneration. Leucin and tyrosin crystals were numerous. The interlobular connective tissue presented only indefinite lines that held together the remnants of the hepatic lobule.

The vessel was thought to be the interlobular or afferent vein. The farther away from this vessel one studied, the more necrosis was found. This would yield a picture suggestive of that indefinitely defined group of hepatic changes

TABLE 5.—SERUM REACTIONS IN CASE 2

Date	Place	Reaction
5-21-1918	Dept. Laboratory, Southern Dept.	++
1-14-1919	Base Hospital Fort Sill, Okla.	++
3-31-1919	Base Hospital Fort Sill, Okla.	+
4- 8-1919	Base Hospital Fort Sill, Okla.	+
5-19-1919	Base Hospital Fort Sill, Okla.	—

classed with the acute yellow atrophies. A study of the cells under higher magnification disclosed many of the cells with a poorly stained nucleus and a finely granular cytoplasm. Other cells showed the more advanced stages of degeneration. Sections were stained with the special stains for fat. The attempt to demonstrate the presence of fat was not successful.

A section of the liver was subjected to the various tests for the presence of arsenic. Both this laboratory and the department laboratory failed to demonstrate the presence of the metal in the tissue examined.

Conclusions Drawn from the Various Pathologic Findings.—Spleen: (*a*) Acute splenic tumor; (*b*) diffuse pigmentation of the spleen.

Kidney: (*a*) Acute tubular nephritis; (*b*) hemorrhagic nephritis (multiple foci).

Liver: (*a*) Massive necrosis of the liver cells (acute yellow atrophy); (*b*) diffuse pigmentation of the liver tissue.

Heart: Localized myocarditis.

Stomach: Hemorrhagic gastritis (multiple foci).

Mesentery and Omentum: Multiple hemorrhagic foci.

Lungs: (*a*) Hypostatic congestion; (*b*) hemorrhagic pleurisy (multiple foci).

CASE 2.—*History.*—Private O. P. entered the service, April 13, 1917, at Fort Sill, Okla. His previous history was negative for syphilitic taint in every form. There was no history of illness referable to hepatic origin. The patient was exposed to syphilis some time in March, 1918. About a month later he noticed a little insignificant painless ulcer on the dorsum of the penis. In May, 1918, secondaries appeared in the nature of skin rashes over the arms and the chest.

TABLE 6.—ARSPHENAMIN TREATMENT IN CASE 2

Date	Arsphenamin Dosage (Gm., Intravenously)
5-14-1918	0.3
5-18-1918	0.3
5-24-1918	0.4
6- 1-1918	0.6
7-30-1918	0.6
8-20-1918	0.6
9-10-1918	0.6
1-17-1919	0.5
1-24-1919	0.5
1-31-1919	0.6
2- 7-1919	0.6
Total	5.6

Serum reactions as recorded on the syphilitic register are shown in Table 5. The treatment given as recorded in the register is shown in Table 6. During the months of May, June and October, 1918, and January, 1919, the patient received inunctions of mercurial ointment in dram doses daily for periods of thirty days.

Clinical Course.—The patient was admitted to the hospital at Fort Sill, Okla., May 13, 1919, aged 24. Length of service was two years. Six days before coming to the hospital the patient traumatized his penis. The injury was not very painful, so he postponed coming to the hospital as long as convenient. On examination he presented a slight tear of the foreskin. This was the only mark on the penis. The patient was kept in the hospital for treatment. May 22, which was about thirteen weeks after the course of treatment, the patient developed jaundice. According to the notes on the physical examination taken at this time, the chest was negative. The abdomen was soft. There were no masses; there was no tenderness and no rigidity. The liver appeared normal in size. There was no tenderness over the liver area. The spleen was not palpable. The clinical course of this case was a close parallel to the one already described in detail, except that the vomiting and hiccuping stage was not reached, as the patient recovered. The jaundice was as deep as in the first case. The convalescence was sluggish but was not interrupted by recrudescence or relapse. The patient was discharged from the hospital, July 1, 1919, apparently well. The jaundice having faded away entirely, he was considered over the attack.

A daily examination of the urine was made and recorded, but in this brief summary it is not necessary to enter it. The albumin finding was positive on every analysis. Sugar was never found. Bile was found in all the examinations except the last four. White blood cells were found constantly. Pus cells were present occasionally. Hyaline and granular casts were present in variable numbers through the entire course.

The blood findings are shown in Table 7.

TABLE 7.—BLOOD FINDINGS IN CASE 2

Date	White Blood Cells	Hemoglobin (Per Cent.)
6-11-1919	8,600	75
6-13-1919	7,200	75
6-16-1919	6,800	80
6-24-1919	6,300	65

Special tests were being tried again and again to demonstrate the presence of arsenic in the urine, but without success.

CASE 3.—*History.*—Private J. B. entered the hospital, May 14, 1919, complaining that he had been suffering for the previous week with a dull aching pain in the lumbar region, the legs and the arms. The pain was of a continuous nature and worse at night. Along with the pain there had been much headache, nausea and dizziness. The patient was held under observation, as it was thought that there was a possibility of a beginning case of cerebrospinal syphilis. Subsequent study did not substantiate this hypothesis. This obscure condition changed very little between May 14 and 23. May 24, however, the patient developed a slight jaundice. The course from then on was more definite. The jaundice rapidly deepened. The nausea gave way to a few paroxysms of vomiting. Dizziness was very pronounced, and vision became clouded. The patient remained in this condition for about ten days, when he began to improve. The nausea ceased. The pain in the back, arms and legs subsided. The headache stopped. The appetite returned and the jaundice began to fade. The eyesight cleared up and the patient was better in every way. The convalescence was not rapid, nor was it stormy. July 1, he was discharged to quarters to complete his convalescence. The jaundice was not entirely gone from the skin.

Urinalysis.—The urine was analyzed every other day over a period of more than a month. During all this time the albumin factor was constant. Never was there a trace of sugar present. The analysis of the urine for bile was started, June 1, and continued till June 27. During this time bile was a constant factor save for the last four analyses. Urinary casts in this case were not a constant factor. When they were present they belonged to the hyaline and the granular variety.

The blood study was repeated again and again, but at no time did the white blood count go above 8,200 and no time below 6,000. The hemoglobin ranged between 60 and 85 per cent.

The arsenical treatment in Case 3 is shown in Table 8.

The mercurial treatment consisted of forty-two rubs prior to March 1, and twelve rubs during the second course of arsphenamin. The special tests that were carried out in this case to demonstrate the presence of arsenic were unsuccessful.

COMMENT

This completes the record, in outline form, to be sure, of the three cases that it has been our privilege to study.

A survey of American literature for a case or cases similar to those described and from which some suggestions or conclusions could be drawn was not rewarded with success. A survey of the British literature gave a record of three cases. Veale and Wedd[2] reported a case of fatal jaundice and discussed its relationship to the antisyphilitic treatment administered. Fenwick, Sweet and Lowe[3] reported two fatal cases of icterus gravis following injections of neo-arsphenamin.

It seems that the best method to follow in summing up the data of the literature would be to pick out the points of similarity and dissimilarity in the cases reported. All the patients were adult men with a record of previous good health and without previous history

TABLE 8.—ARSENICAL TREATMENT IN CASE 3

Date	Arsphenamin Dosage (Gm. Intravenously
1-21-1919	0.4
2- 4-1919	0.5
2-11-1919	0.6
2-18-1919	0.6
2-25-1919	0.6
3- 3-1919	0.5
4- 1-1919	0.4
4- 8-1919	0.5
4-15-1919	0.6
4-22-1919	0.6
Total	5.3

of hepatic illness. All gave positive Wassermann blood findings prior to the administration of the antisyphilitic treatment. All received intensive treatment, which included one of the standard arsenical preparations and some form of mercurial medication. The particular preparation of mercury depended on the choice of the medical officer. All patients showed a period following the discontinuance of the intensive treatment that could well be called negative as far as symptoms or signs of arsenical poisoning are concerned. Then followed a brief and rapid onset of a group of symptoms that were for the most part entirely similar. The appearance of rapidly increasing jaundice without apparent cause was one of the early signs. In the three cases of this series, and in the one reported by Veale and Wedd, the patients complained of crippling pains in the right lumbar region. The condition of the patients in all those cases having a fatal termination became rapidly worse. All suffered intensely from the paroxysms of vomiting that occurred shortly before death. Delirium was a more or less constant symptom.

The objective symptoms showed the liver decreased in size in four out of the six cases. All patients complained of liver tenderness, the intensity of which depended on the stage of the disease. The jaundice increased rapidly till it attained a deep yellow tinge. The urine in the cases of this series was dark brown, and gave positive findings for the presence of bile. Marsh's test for arsenic, repeated again and again on the urines, failed to demonstrate the presence of the metal. The cases reported by Fenwick, Sweet and Lowe failed to show the presence of the metal when tested by the Marsh, the Reinsch, and the Nordent-Koch methods. The patients in this series who recovered were studied over a period of about three weeks, and during that time there was not the slightest trace of the metal demonstrable.

The fecal examinations showed the stools pasty, of light color, and very slightly greasy. Analysis showed the presence of fat. The bile test was negative. The test for occult blood was positive.

The vomitus was of the coffee-ground type, and when analyzed it showed macroscopic blood, low acid content, much mucus, many epithelial cells, and even flakes of gastric mucosa.

Postmorten revealed hemorrhagic phenomena in one or more of the viscera of all the bodies. In one of the cases the petechial hemorrhages were present in almost all the viscera, but especially in the walls of the stomach and the small intestines. There were a few points of hemorrhage in the kidney and the visceral pleura. The other cases showed the walls of the stomach and intestine deeply injected. The pancreas seemed to be free from gross pathology. Microscopically the kidneys showed a type of tubular nephritis much like that seen in cases of mercurial poisoning. This nephritis was localized rather than diffuse, and unilateral rather than bilateral. The liver was small and mottled. It did not favor identically any of the more common types of cirrhosis. There was little or no fatty degeneration in any of the specimens examined. None of the tissues subjected to the various tests for arsenic gave positive findings.

From the brief summary of the one fatal case in this series and of the three fatal cases of the British literature, together with the two cases that ran a similar course with recovery, it seems justifiable to put them into a separate class and to treat them as an entity not included in any of the three classes referred to in the beginning of this paper. The etiology is not established beyond the question of doubt, but the light of present scientific investigation points in accusation against the antisyphilitic treatment. Whether or not we can charge the unfortunate results to the number of full doses of medication as prescribed in the course of intensive treatment; or whether they be due to a combination of the arsenical and mercurial medication; or whether they be due to a selectivity on the part of certain tissues, especially the liver, such that an overwhelming dose should start the degenerative process; or again, whether there could be a visceral syphilis, especially of the liver, that should prove a point of lowest resistance in the defense of degenerative changes, would be beyond the realm of our present knowledge.

The microscopic study of the kidney showed a tubular type of nephritis entirely compatible with that seen in mercurial poisoning. The hepatic findings, however, which are paramount in this series of cases, hurls a discordant note into any mercurial etiology alone. To conclude that negative chemical tests for the presence of arsenic should eliminate this drug from any etiologic responsibility would be hasty and unwar-

2. Veale, R. A., and Wedd, B. H.: A Case of Fatal Jaundice, Brit. M. J. 2:341 (Sept. 28) 1918.
3. Fenwick, P. C.; Sweet, G. B., and Lowe, E. C.: Icterus Gravis after Novarsenobillon, Brit. M. J. 1:448 (April 20) 1918.

ranted. To say that the nephritis was due directly or indirectly to the mercurial medication, which would of itself hamper the chief avenue of elimination of the arsenic and its toxins, and to suggest that this factor, plus the toxicity of the arsenic already in the system, had overwhelmed the hepatic tissue instigating the necrotic process would be compatible with the findings and in harmony with the clinical picture of the case.

IRRITATIVE URETHRITIS

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Nonspecific urethritis has been defined by Keyes as "an acute urethritis due neither to the gonococcus nor tubercle bacillus and usually excited by no known cause other than sexual excitement or contact." He states further that it is almost, but not quite, universally true that the normal male urethra is immune to infection by any bacterium except the gonococcus. The observation of the bacteriologic findings in a vast number of cases of urethritis, and the not infrequent occurrence of cases in which the discharge failed to show the presence of gonococci, prompted a careful study and analysis of such cases.

Just how frequently this condition occurs is rather difficult to state, since no record of the total number of cases examined is available; however, the twenty-eight cases presented herewith appeared in two different localities during a period of slightly less than five months, and were encountered during the examination of approximately 500 separate cases.

In studying these cases the points considered were: (1) etiology, (2) symptoms, (3) bacteriology, and (4) clinical course.

The etiologic factor which seemed to be constant was an irritation of the urethral mucosa caused by the administration of the venereal prophylactic that is required in the army. All of the patients included in this series received the prophylactic and it may be assumed that the urethritis in all cases, except one, was due to this cause.

The standard American prophylactic, a 2 per cent. solution of protargol, was not a frequent offender, and it was usually found in cases in which the urethritis developed following the use of a prophylactic provided by themselves. One group of cases was of particular interest in that British individual prophylactic packets were used, and three of seven men using them developed a urethritis. The identity of the material in that particular lot of prophylactic could not be determined, and inquiry of two battalion surgeons of the British Expeditionary Forces disclosed no evidence that severe urethral irritation following the use of their prophylactic was common among their troops.

IMPROVISED PROPHYLAXIS

The greatest number of cases followed the use of what it has been chosen to call "improvised" prophylaxis, that is urethral injections provided by the soldiers themselves and usually obtained from a French apothecary, who no doubt had a secret formula of his own. It was obviously impossible to determine the content of all the solutions thus dispensed; but potassium permanganate, mercuric chlorid and zinc sulphate were identified beyond doubt in addition to the silver salts.

Clinically, all of the cases showed great similarity, onset from twenty to forty-eight hours after use of the prophylactic, slight pain and burning during urination, and a varying amount of discharge, at first clear and glairy, later creamy and distinctly purulent. Microscopically, this discharge showed many epithelial cells, an increasing number of pus cells with a preponderance of the mononuclear types, and a varying bacteriologic picture.

The course of the disease, that is, the time from the appearance of the discharge to the disappearance of all symptoms, varied from two to eleven days; and in one case a recurrence was noted seven weeks after the patient was discharged as cured.

BACTERIOLOGIC STUDY OF CASES

The bacteriologic study of these cases revealed no single organism as the causative agent, but did bring to light one striking fact, namely, that the use of urethral injections of bactericidal substances rendered the urethral canal sterile for varying lengths of time.

STATISTICAL DATA IN SERIES OF URETHRITIS CASES

Case Number	Incubation, Hours	Duration, Days	Prophylactic Used	Organism
1	25	2	Improvised	Gram-positive diplococcus
2	40	2	U. S. A.	None
3	48	2	Improvised	None
4	30	1	Improvised	B. coli; Staph. albus
5	36	4	U. S. A.	Gram-positive diplococcus
6	20	3	Improvised	None
7	24	4	U. S. A.	None
8	30	2	Improvised	Gram-positive diplococcus
9	48	3	Improvised	Gram-positive diplococcus
10	4	2	U. S. A.	None
11	36	4	U. S. A.	None
12	36	11	None	Gram-positive diplococcus; streptococcus
13	36	3	British	Gram-positive diplococcus
14	40	4	British	None
15	24	2	British	None
16	30	7	U. S. A.	None*
17	24	1	Zinc sulphate	Gram-positive diplococcus
18	48	4	U. S. A.	None
19	36	3	"Cresol"	Many forms
20	28	2	U. S. A.	None
21	20	2	Potassium permanganate	None
22	30	3	Mercuric chlorid	None
23	48	1	Silver salt	None
24	24	2	Silver salt	None
25	36	3	Zinc sulphate	Gram-positive diplococcus
26	27	2	Improvised	None
27	40	1	Improvised	None
28	48	4	Potassium permanganate	Gram-positive diplococcus

* Recurred after seven weeks without further sexual contact.

Seventeen, or 60 per cent., of the cases showed no organism in the examination of gram-stained smears, and fifteen, or 50 per cent. of the cases, showed no growth after seventy-two hours' incubation on plain agar and hydrocele fluid agar. Eight cases, or 28 per cent. showed the presence of a large gram-positive diplococcus, which grew profusely on ordinary mediums and was also cultivated from three out of ten normal urethras. The three remaining cases presented the greatest interest: One showed a mixed infection with *B. coli* and *Staphylococcus albus* which disappeared after three injections of 10 per cent. argyrol. One showed a short chain streptococcus mixed with the gram-positive diplococcus mentioned above and ran a very protracted course. In this case, after much questioning, it was learned that the patient had taken no prophylactic, and eighteen months before had had an obstinate posterior urethritis and vesiculitis. The last case followed the injection of a dilution of a popular cresol disinfectant; the discharge was scanty and soon disappeared. The patient gave a history of a severe

gonorrhea three years before, and smears of the pus showed a diversified bacterial flora of more than a dozen forms.

The entire series is given in the accompanying table.

TREATMENT

The treatment in these cases presented no difficulty. As soon as it was determined that the discharge was not due to infection with the gonococcus, local treatment was stopped, copious drafts of water were recommended, and alkalis were administered. So long as urethral irritation was continued by injections of antiseptic solutions, the discharge persisted.

CONCLUSIONS

A consideration of the information presented by these cases prompts these conclusions:

1. The injection of irritating bactericidal substances into the urethra not infrequently causes a urethritis which may easily be confused with the true gonorrheal infection.

2. Such injections render the urethral canal sterile for a considerable period of time.

3. In prescribing treatment in such cases of "irritative" urethritis, the local application of antiseptics is to be avoided.

4. Purulent discharges from the urethra should not be considered gonorrheal until the gonococcus has been unmistakably demonstrated in the smears.

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DELAYED DEATH IN CORONARY THROMBOSIS

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That thrombosis in the coronary arteries does not invariably cause sudden death has been recently emphasized.[1] It is possible that fairly frequently in lesions of this sort, life is prolonged a considerable space or that the establishment of a compensatory circulation is accomplished with a complete or nearly complete return of full heart function. It is undoubtedly true that this condition many times goes without diagnosis, and in the absence of a necropsy the true state of affairs is not recognized.

An interesting and important feature is the intense abdominal pain that may be present. This has an important surgical bearing; as, given a sudden, very severe abdominal pain, with tenderness to palpation, which may even be accentuated over appendix or gallbladder, a laparotomy may be seriously considered and in some instances, probably, logically performed. An interesting question of differential diagnosis is thus raised.

Herrick gives a tentative classification based on the clinical picture of cases of coronary thrombosis:

1. Cases of instantaneous death in which there is no death struggle, the heart beat and breathing stopping at once.

2. Cases of death within a few minutes or few hours after the obstruction.

3. Cases of severity in which death is delayed for several hours, days or months, or recovery occurs.

4. A group that may be assumed to exist embracing cases with mild symptoms; for example, a slight precordial pain ordinarily not recognized, due to obstruction in the smallest branches of the arteries.

The case herewith presented falls under Group 3 in the foregoing classification.

REPORT OF CASE

A sailor, aged 34, was suddenly seized, January 25, while on board ship, with a severe pain in the left chest, axilla and upper arm. There was some pain in the abdomen. The pain was accompanied by a pronounced feeling of weakness and what he termed "shortness of wind." He was nauseated and vomited several times. He was compelled to stop work and take to his bunk. The following day he felt much better, but the pain persisted. In a few days he was able to be about, but was unable to work and still complained of the constant pain in his chest, arm and abdomen. January 31, he was brought to the hospital.

He had had no attacks similar to this previously. He denied having had pains of any sort in the chest or elsewhere. He states he had taken care of himself and not dissipated and had always been well. He denied any venereal infection.

On admission he complained of pain in the precordium, left shoulder, upper arm and abdomen. He was noticeably weak; the pulse was 88 and small in volume. There was no marked increase in the area of heart dulness. The urine contained considerable albumin and some casts.

His condition improved considerably. Weakness became less marked. The pulse became stronger. Pain in the chest diminished. February 3, the tenth day, he sat up in a chair and even walked about the ward a bit, without discomfort. February 4, his condition was still improved, though dull ache persisted in the precordium and left arm. February 5, he began complaining more of the pain in the abdomen and complained less of the chest and arm. This increase in pain in the abdomen came on rather suddenly and seemed very severe. He was nauseated and vomited. It was necessary to give morphin. February 6, pain in the abdomen still persisted and had grown worse. The patient seemed in agony. He was with difficulty relieved by morphin. On two successive palpations of the abdomen he localized the greatest point of tenderness first over the appendix and next the region of the gallbladder. Repeated examinations failed, however, to substantiate the localized tenderness. The abdomen was not rigid. It was not distended or tympanitic. The patient had difficulty in telling exactly where the pain was, but localized it most often in the epigastrium and below the costal margin on both sides.

On the evening of February 6 he suddenly died.

The heart was normal in size and somewhat pale. External examination revealed very little abnormality. There was a partially organized thrombus in the ramus descendens anterior of the left coronary artery. The heart muscle at the apex of the left ventricle and at the lower part of the interventricular septum was soft, very pale and friable.

The anterior papillary muscle was in similar condition. There was no evidence of arteriosclerosis in the aorta or elsewhere. Except at the extreme tip of the ventricle, the anemic area was confined to the inner one half to two thirds of the ventricular wall. The outer shell of muscle immediately beneath the visceral pericardium was not affected. The kidneys had marked interstitial changes. There was a moderate passive congestion of the liver. There were no other pathologic changes in the abdomen.

COMMENT

In this case the patient lived for a period of thirteen days from the onset of first symptoms.

The interesting distribution of the anemic infarct, confined almost entirely to the inner portions of the cardiac wall, I have not seen described before.

Marine Hospital.

1. Herrick, J. B.: Thrombosis of Coronary Arteries, J. A. M. A. 72: 387 (Feb. 8) 1919.

THE TREATMENT OF THYROTOXICOSIS BY MEANS OF ROENTGEN RAY

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The treatment of exophthalmic goiter and other forms of thyrotoxicosis by the roentgen ray was recommended as early as 1905, and a considerable amount of literature on the subject has since accumulated. In 1916, Pfahler was able to collect seventy-six papers on the treatment of exophthalmic goiter by the roentgen ray. Nevertheless, outside of a few clinics, no general attention has been given to this subject. During the past five years we have treated, in the roentgen-ray department of the Massachusetts General Hospital, 262 patients for thyrotoxicosis. The results of this work have been sufficiently encouraging, we think, to warrant a more general use of this agency in the treatment of thyrotoxicosis.

Experimental and investigative work has shown that it is possible to destroy the glandular structures by subjecting them for a sufficient length of time to the roentgen ray or to radium. It is also generally known that the action of this form of light is most destructive on the higher organized type of cell and that the tissues of the lymphatic system are particularly vulnerable.

Anatomically, the thyroid gland is somewhat allied to the lymphoid structures, and change in it is often accompanied by an enlargement of the thymus. (Kocher found the thymus enlarged in 50 per cent. of his operative cases.)

If these statements are true, and the amount of irradiation sufficient to destroy the thyroid gland is not greater than that which will produce an injurious effect on the skin, we should be able to remove part or all of the gland by means of irradiation and produce results similar to those of surgery without the dangers incident thereto.

A REVIEW OF THE LITERATURE

A review of the literature would seem to prove that such results can be obtained. In 1913, Dr. Florence Stoney reported forty-eight cases of exophthalmic goiter treated by the roentgen ray, in fourteen of which complete cure was effected, and in twenty-two great benefit was derived, so that the patients were able to resume the ordinary habits of life. Four patients derived no benefit; seven quit too soon for any opinion as to the result, and one patient, in whom the pulse rate fell from 136 to 112 after treatment, died twelve hours after operation. Pfahler and Zulick, after a careful review of the literature and a study of their own cases, reach these conclusions:

1. We believe that the trial of treatment for one series with an interval of waiting of one month is justifiable in all cases, for if operation is decided on nothing is lost, and many operations can in this way be avoided.

2. Treatment should be directed toward the thyroid and the thymus glands.

3. Increase in weight and decrease in pulse are the first signs of improvement and are practically always found.

4. Treatment must not be prolonged over too long a period, or hypothyroidism may be produced.

5. The goiter and the exophthalmos are the last to show improvement, and in many cases show no change.

Means and Aub[1] base their observations on a considerable number of cases treated medically, surgically and by roentgen ray, and these are their conclusions:

1. The general metabolism shows a characteristic increase in hyperthyroidism.

2. This rise may be used as a functional test of the thyroid activity or as an index of the intensity of the thyroid intoxication.

3. An extended study of the metabolism in various types of toxic goiter shows that:

(*a*) Rest alone usually causes a marked decrease in toxicity.

(*b*) Drugs in addition to rest do not materially accelerate this decrease.

(*c*) The roentgen ray, in some cases, produces a definite improvement, while in others it seems to be quite without effect.

(*d*) The usual immediate effect of surgery is a marked decrease in toxicity, but there is a very definite tendency toward a subsequent recurrence.

4. The lesson in therapeutics to be drawn from these results we believe to be about as follows:

(*a*) Complete rest in bed plus irradiation should be continued until the metabolism reaches a level.

(*b*) If rest and the roentgen ray fail to restore the metabolism to within 20 per cent. of the normal, it is proper to resort to surgery, unless there is some definite contraindication. Among contraindications a rising metabolism, in spite of complete rest, seems to be very important.

(*c*) Following operation, if the metabolism again increases, further active treatment should be carried out. The observations in the cases that we have followed for a long time emphasize the importance of keeping cases of exophthalmic goiter under observation for months rather than weeks, and preferably years rather than months.

ARRANGEMENT OF CASES IN GROUPS

After a study of the case histories of our series, we have arranged the cases into four groups:

1. Patients in whom very definite benefit ensued, apparently as the result of the treatment, and are clinically well.

2. Patients in whom there was definite improvement but who still manifested some evidence of disease.

3. Patients in whom there was no change under treatment or who became definitely worse.

4. Patients in whose cases fairly complete data were obtained, at least one basal metabolism record was made, and sufficient time had elapsed to warrant a definite opinion as to the final result. The cases in this group are selected from the other three.[2]

In addition to the cases grouped, there were 133 patients who received one or more treatments but have not been included because of insufficient data.

DISCUSSION OF THE VARIOUS GROUPS

In Group 1 (patients apparently well), there were thirty-four patients, ten of whom were over 35 years and five under 20 years of age. Three were males and thirty-one were females. Two of the patients had been operated on without complete relief of symptoms. In some instances the histories were incomplete, but the

1. Means, J. H., and Aub, J. C.: A Study of Exophthalmic Goiter from the Point of View of the Basal Metabolism, J. A. M. A. **69**: 33 (July 7) 1917.

2. The basal metabolism determinations were made by indirect calorimetry with the Benedict apparatus. The results are expressed as a percental variation from the normal heat production per unit of body surface area. The normal standards used for comparison were those adopted by the Russell Sage Institute. The full details of this work will be published elsewhere by Means and Aub. Compare Aub, J. C., and Du Bois, E. F.: Clinical Calorimetry, XIX, The Basal Metabolism of Old Men, Arch. Int. Med. **19**: 823 (May) 1917.

present condition of the patient is known. In some of the cases exophthalmos persists, but the patients are free from symptoms of thyrotoxicosis. The number of treatments received by each patient ranged from three to thirteen, the average number being about seven. The greatest duration of treatment was thirty months, and the shortest four, while the average time was eight months. When a record of the metabolism was made, it showed a sharp drop in most cases. This was true of the pulse also. But in some who never had a high metabolism the pulse remained high, and in these there is some doubt in regard to the diagnosis. In typical thyrotoxicosis the pulse usually follows the metabolism. Seventeen of the number showed a gain in weight; six a loss of weight, and in the remainder the records were incomplete.

In Group 2 (cases improved), there were sixty-eight, thirteen of whom were 36 years of age or older; nine were under 20 years, and the others ranged between 20 and 35 years. Three were males and sixty-five were females. In many of the cases part of the data are missing, owing to the fact that complete records were not kept of the early cases. In a few the diagnosis may have been incorrect, but all of the cases were referred from the medical department for treatment for hyperthyroidism. The opinion as to the result of the treatment is based on a study of the clinical records, and the statement of the patient at the time of the last visit. They were under observation for from three months to two years and a half. The average time, however, was rather less than in Group 1. The average number of treatments received was also less.

In Group 3 (unimproved or bad results), there were fourteen patients, five of whom were over 35 years of age, while there were none under 20 years. All were women. In the case of two of the patients the diagnosis was probably incorrect, as tuberculosis was suspected in one, and the other never had a high metabolism. One died following operation. This patient had received one treatment a few days previously. Two died during the period of treatment from intercurrent disease; six had less than the required number of treatments, making a total of ten in which failure to obtain relief was not due entirely to the method of treatment. In the three remaining cases, two patients showed only slight improvement after prolonged treatment and may definitely be classed as failures (they were comparatively young patients, between 25 and 30 years old). In the remaining case, myxedema developed, possibly as a result of overtreatment. The number of treatments in Group 3 averaged the same as those of Group 1, but the duration of treatment was rather longer.

Group 4 comprises a fairly complete study of thirty-six cases, in all of which at least one metabolism test was done, while in some the metabolism was determined before and after treatment. In a few of these cases the record was made too soon after treatment to show the best results. In all of them the final observations were made by a disinterested clinician. The comparison of cases in this group is much the same as in the others, eleven patients being over 35 years, only three under 20 years, and the others ranging from 20 to 35 years. Seventeen of the patients were perfectly well, while thirteen were improved, making a total of thirty who were definitely benefited by the treatment. In four of the cases the diagnosis was incorrect, as proved by the metabolism determination and the future course of the disease. One patient was operated on without relief; two had recurrence of symptoms that responded to future treatment, and in one case myxedema developed as a result of overtreatment. One patient died from unknown cause during the course of treatment. The accompanying table presents the results of treatment in this group.

METHOD OF GIVING ROENTGEN-RAY TREATMENT

The method of giving the treatment varied somewhat in the first two years. During the last three years, however (in which the greater number of treatments were given), it has been fairly constant. Most of the work was done with an interrupterless machine, Coolidge tubes being used. The parallel spark was approximately 8 inches. The rays were filtered through 4 mm. of aluminum and 1 mm. of leather. The target skin distance was 8 inches. Three areas were treated at each sitting, each area receiving two thirds of an erythema dose.

The treatment should be applied to both the thymus and the thyroid regions. Fairly hard rays should be used, and the treatment should not be repeated until three weeks have elapsed. After a series of three treatments, there should be an interval of three months before resuming treatment; then a second series of three treatments should be given. If the symptoms have not sufficiently disappeared at the end of this period a third series should be given, making nine treatments in all. Consequently, during this time, the patient will have been under observation about one and a half years.

DANGERS INCIDENT TO THE TREATMENT

The dangers and unsatisfactory results incident to this form of treatment are less severe than those of surgery, but they do exist. It is probably true that the function of the thyroid gland may be destroyed and hypothyroidism produced. This is more likely to result if treatment is pushed and the interval of two or three months between each series is omitted. A reexamination in the early cases convinced us that changes go on for some time after treatment is discontinued, and that it is not necessary to have complete cessation of symptoms before stopping treatment.

Another undesirable feature is that of telangiectasis and atrophy in the regions treated. These patients are especially susceptible to changes of this kind, and as the majority of them are young women, when such changes do occur, the resulting disfigurement is of considerable import. These changes are more likely to occur when unfiltered rays are used or an erythema is produced. By using heavy filters and keeping well below the erythema dose, such untoward results can usually be avoided.

The toxemia may be increased to a dangerous degree by the first treatment. This must be guarded against by starting with small doses, preceded by rest in bed until the symptoms are reduced as much as possible. In cases in which surgical treatment has been employed but no complete cure effected, the treatment should be given with the utmost caution, as the danger of hypothyroidism is then greater. Treatment should not be commenced too soon after the operation, and should never be prolonged.

DIAGNOSIS OF TYPE OF GOITER

In selecting patients for treatment, it is of first importance that a definite diagnosis of the type of

goiter be made, as on this depends the treatment to be adopted. Should the case not be one of thyrotoxicosis, harm may result from the irradiation. These cases should be studied by a competent clinician and metabolism tests made before treatment of any kind is instituted.

Nonmalignant goiters may be divided into simple or colloidal, cystic and toxic goiters. Toxic goiters may be further subdivided into exophthalmic goiter and adenoma. In the first two forms there is no evidence of hyperplasia of the gland and no toxic symptoms; therefore, radiation would only tend to destroy what remained of the normal gland and would hasten hypothyroidism, producing no effect whatever on the size of the tumor. If pressure symptoms are present, surgical treatment should be given in such a case. In the toxic type, whether exophthalmic or not, there is an exophthalmic goiter is a self-limiting disease, and that in from 60 to 70 per cent. of the cases, spontaneous cures are recorded at the end of five or six years.

If these reports are accepted, the percentage of cures must be high or prompt relief of symptoms must be obtained, in order to show that any form of treatment is a source of definite benefit to the patient.

In most of the cases reported in this paper, decided improvement was noted twelve months after treatment was begun. In some of these, however, the symptoms had been present for a considerable time, and it is possible that the disease had nearly run its course before treatment was begun. Nevertheless, it is our opinion and that of the associate clinicians, that in cases taken early in the disease a more ready response to treatment was noted and more satisfactory results were secured.

RESULTS OF TREATMENT IN GROUP 4

Number	Sex *	Age	Duration of Symptoms, Months	Number of Treatments	Metabolism Before	Metabolism After	Pulse Before	Pulse After	Weight, Kg. Before	Weight, Kg. After	Tumor Before	Tumor After	Exophthalmos Before	Exophthalmos After	Duration of Symptoms before Treatment	Final Note
823	♀	45	5	5	—	+ 6	—	79	—	60.0	+	+	—	—	2 yrs.	No clinical evidence of hyperthyroidism
378	♀	34	24	14	+88	+62	117	112	50.5	53.5	+	0	—	—	4 mos.	Obese (73 kg.); myocardial weakness
576	♀	49	12	6	—	—	—	87	—	67.4	0	0	—	0		No evidence of thyrotoxicosis; simply neurotic
501	♂	34	10	6	+78	−14	103	55	50.0	50.0	+	+	Slight	Less	2 yrs.	No symptoms; apparently cured
1011	♀	39	9	6	+34	+15	96	84	56.8	65.5	+	−	+	—	5 mos.	Clinically well
892	♀	19	4	5	+112	—	94	—	48.6	—	+	±	—	—	?	No clinical evidence of hyperthyroidism
940	♀	22	4	5	+12	—	89	—	54.4	—	+	—	—	—		Looks well —
987	♀	36	23	5	—	+10	—	88	—	69.7	+	+	—	0	—	Improved
902	♀	41	6	4	+47	+ 6	107	74	55.0	62.0	+	—	Slight	Less	3 yrs.	General health good
676	♀	18	9	5	—	+20	—	108	—	53.5	—	—	—	—	1 mo.(?)	Health good
709	♀	44	10	10	+71	+46	104	96	49.0	—	+	+	—	0	8 yrs.	Improved
729	♂	20	4	7	+48	+49	100	97	64.5	63.0	+	—	—	—	3 wks.	Looked toxic; said he felt well; went "overseas"
706	♀	38	12	11	+36	+32	117	108	61.0	60.0	+	+	+	+	4 yrs.	No evidence of hyperthyroidism; goiter heart (?)
708	♀	21	8	4	—	0	—	67	—	64.0	+	+	—	—	1 yr.	No clinical evidence of thyrotoxicosis
1008	♀	39	3	4	+40	− 9†	121	98	55.2	59.0	+	—	—	—	? mos.	Improved; well
794	♀	36	4	5	—	+36	—	82	—	77.5	—	0	+	Slight	1¼ yrs.	Looks like complete cure
868	♀	—	17	11	+42	− 6	118	80	48.2	49.0	—	—	—	—	2 yrs.	Apparently cured
872	♀	39	21	8	+39	+ 4	—	104	—	65.5	—	—	—	—	1 yr.	Well
524	♀	35	15	10	—	+31	—	85	—	62.4	+	—	—	—	7 yrs.	Improved
1012	♀	35	19	12	+87	+29	121	100	59.0	68.5	—	+	—	0	2 mos.	Much improved
1051	♀	32	3	5	+50	+482	108	107	52.0	55.0	—	—	—	—	4 yrs.	Improved (since died)
1067	♀	39	27	1	+46	+22	99	76	59.0	144 lbs.	—	—	—	—	5 mos.	Improved after recurrence and treatment; still treating
2282	♀	36	8	3	+23	+32	97	107	60.0	59.5	—	—	—	—	—	Clinically slight hyperthyroidism and mitral disease
635	♀	21	9	3	—	+17	—	90	—	59.3	+	+	Slight	Slight	—	Clinically not hyperthyroidism
879	♀	22	3	5	—	+158	—	99	—	60.5	—	—	—	—	1 yr.	Improved; well
1029	♀	45	6	8	+67‡	—	120	less	—	gain	—	—	+	+	1 yr.	Reported as myxedema six months later
817	♀	22	17	19	+54	+67	—	—	—	—	—	—	—	—	—	Much better
621	♀	14	3	4	—	+ 3	—	—	—	—	—	—	—	—	—	Much improved
997	♀	44	21	12	—	+17	120	80	gain	—	—	—	—	—	—	No symptoms
2280	♀	17	12	10	—	+44	80	82	—	118 lbs.	—	—	—	+	—	Improved; gain in weight when treatment commenced
532	♀	20	12	8	—	+ 4	120	154	89¼ lbs.	89¼ lbs.	+	+	+	+	—	Myocardial degeneration; very little hyperthyroidism
845	♀	22	4	4	..	+ 5	100	80	113¼ lbs.	—	+ Improved		+	Improved	—	Much better; relapse after 8 months; then improved
1094	♀	35	10p-o	5	+46	+25	120	80	147¾ lbs.	138 lbs.	—	—	+	+	—	Well, except for gastric distress (diabetic); thyroidectomy in November, 1916; weight 119 lbs.; metabolism before operation +78; after, +49 (April, 1917)

* In this column ♂ indicates male, and ♀ female.
† This was after lobectomy.
‡ This was after three roentgen-ray treatments.
§ This was after operation; after four roentgen-ray treatments, metabolism was +73.
¶ After four roentgen-ray treatments, metabolism was +48.

increase in the structure of the gland and in its activity, both of which are affected by irradiation; hence it is in this type of case that roentgen-ray treatment is indicated.

To obtain a fair estimate of the value of any form of treatment it is necessary to know and consider the percentage of patients suffering from the disease who recovered without treatment. Hale and White followed eighty-seven cases of exophthalmic goiter treated at Guys Hospital, London. After a number of years it was found that sixty-one of these patients were cured, twenty-one decidedly improved, and only five of the eighty-seven cases unimproved. Stanton, after a rather extensive experience in the treatment of goiter and after a review of the literature concludes that

SELECTION OF PATIENTS FOR TREATMENT

We cannot emphasize too strongly the importance of careful diagnosis and the selection of patients to be treated. If the case is one of thyrotoxicosis, after the second or third treatment the patient usually expresses a feeling of relief from the disagreeable nervous symptoms, the pulse rate becomes lower, and there is a gain in weight. About a year after treatment is begun there should be considerable diminution in the size of the thyroid gland. Exophthalmos never entirely disappears. Except in the more severe cases, the patients have continued their usual habits of life; but we believe that it is of definite advantage to have the treatment supplemented by rest, as in this way the duration of treatment will be shortened. Usually, at the end of six

months the patients are sufficiently relieved to resume their ordinary occupation without difficulty or discomfort. To be sure, the relief from symptoms is not so quickly obtained as by surgery, but the dangers are less, and in the milder cases it obviates the necessity of interfering with the daily life of the patient. These are factors that should be considered when deciding as to the form of treatment.

If relief is not obtained by roentgen ray after nine treatments, or if, for any reason, it is desirable to hasten results, surgery may be recommended. The previous treatment by roentgen ray will be of benefit, as it reduces the operative risk by destroying the thymus gland. After roentgen-ray treatment some operators have complained of adhesions and increased bleeding at time of operation; but such has not been the experience of the surgeons in this clinic.

SUMMARY

1. It is possible to decrease the activity of the thyroid gland and probably to destroy its glandular structure by exposure to the roentgen ray.
2. Roentgen-ray treatment when applied in cases of thyrotoxicosis produces a relief of symptoms and shortens the course of the disease.
3. A study of the basal metabolism before, during and after treatment is of the greatest importance both as a means of diagnosis and as a check on the amount of treatment to be given.
4. The roentgen ray, accompanied by rest, should be tried in all cases of thyrotoxicosis and should be continued for a sufficient length of time to destroy at least the thymus before resorting to surgery.

Clinical Notes, Suggestions, and New Instruments

FRAGILITAS OSSIUM WITH BLUE SCLEROTICS

WALTER D. WISE, M.D., BALTIMORE

This case is reported, not because it is an exaggerated example of the type, but because the type is interesting and rather rare.

Charles W., aged 5, was seen at the South Baltimore General Hospital, Aug. 4, 1919. His mother stated that he had been playing on the floor when suddenly he complained of his leg and began to cry, refusing to put weight on the foot. He did not fall, and had not been engaged in any game or been doing anything that would have been likely to cause an injury. The leg was swollen and tender. There was a slight deformity just above the ankle. A roentgenogram revealed a fracture of the lower third of the tibia, and the upper part of the fibula. The child was a well nourished, fairly well developed boy with no signs of scurvy, rickets or any constitutional disease. However, it was noted that his sclerotics were of an azure blue. It was then seen that his mother had sclerotics of the same color. She gave a history of having had, in her life, three fractures of the right humerus and two of the left, all from trivial causes. The mother's father was reported to have the same type of eyes and to have had fractures of the clavicle and humerus, but apparently from rather severe falls. The patient's two brothers had blue sclerotics, but had had no broken bones. One sister with the same colored sclera had sustained a broken forearm as the result of her mother's having fallen with her—probably a legitimate cause.

The leg united in the usual length of time without deformity or any unusual feature.

1800 North Charles Street.

A CASE OF TRYPANOSOMIASIS

HAROLD B. ADAMS, B.S., NEW YORK

History.—A young seaman, aged 26, white, was admitted, August 13, to the wards of Roosevelt Hospital for observation, with the diagnosis of sleeping sickness made by a physician in West Africa. He weighed 140 pounds and was 5 feet 8 inches in height. He was born in Baltimore, but was raised in England. He had been a seaman all his life.

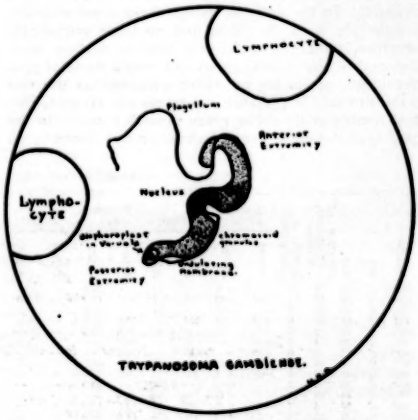

Fig. 1.—Trypanosoma gambiense: nomenclature, and size as compared with lymphocytes.

The patient complained of extreme weakness amounting to feebleness, constant dull headache, intense itching of the arms and legs, and swelling of both sides of the neck.

The family history was negative. The patient had always been healthy until his present illness. Sixteen months before he had gone to Sierra Leone, West Africa, where he worked on a development project for nine months. In January, 1919, after he had been in Africa eight months, he was taken to the company hospital with a high fever, intense headache and recurring chills. There was a general erythematous rash over the entire trunk and upper extremities, accompanied by intense itching. The rash and the itching were ascribed to poisoning by a mangrove dye.

The physician in charge, while looking for malaria, discovered trypanosomes in the blood. He immediately placed the patient on sodium arsanilate, 2 grains every other day. A diagnosis of double tertian malaria was also made, and quinin was administered. One month later, February, the patient left Africa and returned to England, where he received treatment at the Seaman's Hospital in London. At this time he had an eruption, described as round red spots 5 or 6 inches in diameter, shaped more or less like a horseshoe, on his chest, back and face. They persisted until just before his entrance to this hospital when there was still a slight suggestion of an annular erythematous patch on the right cheek. He was discharged, relieved, from the London hospital, but was advised to continue treatment for at least two years. He was supplied, by a private physician, with several hypodermic syringes and sodium arsanilate, which he injected intramuscularly into himself in varying doses at even more variable intervals over a period of five months.

During the past sixteen months he has lost about 50 pounds.

When on shore, his habits are alcoholic.

Five years before, he had had gonorrhea, and a chancre in May, 1919.

Physical Examination.—The results of examination of the eyes, ears, nose and mouth were negative. His speech was unaffected. On each side of the neck, posterior to the

sternomastoid muscle, was a chain of hard lymph nodes. They were discrete, showed no tendency to suppuration, and were not tender.

The heart was slightly hypertrophied, and there was a faint blowing systolic murmur, heard best at the apex, and transmitted to the axilla. Tachycardia was present. There were many hard, discrete nodes in each axilla. Posteriorly, there were a few maculopapular eruptions averaging about 5 mm. in diameter.

The abdomen was negative except for a slightly enlarged spleen and inguinal nodes.

The genitals showed evidence of a chancre.

There were no tremors, local edema or abnormal reflexes of the extremities. Both epitrochlear nodes were enlarged, hard and firm. There was a peculiar hyperesthesia of the upper extremities which was demonstrated by slightly pinching the arm.

The patient is now apparently in the apyretic stage of the disease. At no time since his arrival has he had a temperature over 101, but he often has a subnormal temperature reaching as low as 96.4. The evening temperature is always higher than the morning temperature, and all the subnormal falls have occurred between 8 and 9 o'clock in the morning.

The pulse is easily excited and jumps to 110, slightly more or less, under the least provocation.

The urine is negative.

The blood findings are: hemoglobin, 85 per cent.; red blood cells, 4,600,000; white blood cells, 5,000; polymorphonuclears, 46 per cent.; lymphocytes, 54 per cent.; Wassermann reaction, negative when admitted, three weeks later, + + + +; malaria parasites, not found; nonprotein nitrogen, normal. The patient's blood was examined for trypanosomes twice daily for one week unsuccessfully. Animal inoculation has been tried but has not yet proved successful.

Treatment and Results.—A cervical lymph node was aspirated with an ordinary 10 c.c. Luer syringe, and a watery substance extracted. Only about enough to fill the needle of the syringe was secured. A smear was made and stained by Hastings' method. *Trypanosoma gambiense* was found in fairly large numbers. The patient was placed on arsenic treatment in the form of sodium arsanilate, 3 grains every other day. He was also put under vigorous antisyphilitic treatment. At one time, about a week after the sodium arsanilate was started, he complained of a smarting sensation in both eyes. Examination disclosed a circumcorneal injection and a marked photophobia, but no other symptoms. The following morning he had apparently recovered. Reading made his eyes feel tired, but by the next day there were no further eye symptoms and there has been no recurrence. Since the condition cleared up without stopping the arsenic, we think it was due to the trypanosome.

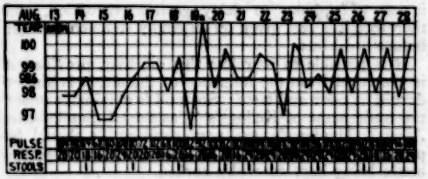

Fig. 2.—Temperature for first sixteen days of disease: * indicates time node was aspirated.

Positive findings which led to the diagnosis of trypanosomiasis were: Subjective: neuralgic pains in arms, legs and back; hyperesthesia; headache; intense itching, and transient eye symptoms. Objective: trypanosome found in material from aspirated node; loss of weight; mild tachycardia; enlarged spleen; polyadenitis; subnormal temperature and the maculopapular eruption on the back.

After six weeks of treatment the patient is obviously much better than when he was admitted. The cervical glands have almost disappeared. He is stronger and has been allowed to leave the hospital on pass without any harm. There is no more itching, and the rash has gone from his back. However, he still complains of neuralgic pains in the limbs and is sometimes irritable and often discouraged.

COCCIDIOIDAL GRANULOMA: REPORT OF A CASE

GORDON F. HELSLEY, M.D., REPRESA, CALIF.
Resident Physician, State Prison at Folsom

History.—A negro, aged 32, seen on entrance to the prison, Dec. 20, 1918, had a large tumor in the left lumbar region which had first been noticed in March, 1917. At no time was the mass painful. The patient was born in Maryland, where he lived eight years; he then lived fourteen years in Oklahoma, and since then in California (ten years) in the Sacramento-San Joaquin Valley. He had been a waiter; he had never been around live stock. He had a sore on the glans penis in 1906 (supposedly chancre). He had a bubo in 1909, which was never opened. There was a swelling in the right supraclavicular region in 1917 at the same time as the lump in the back was first noticed. Following the diagnosis of cervical lymphatic tuberculosis, an operation was performed, after which there was a sinus for several months.

Examination.—The patient was of healthy appearance and well nourished. There was a scar of operation above the right clavicle. The inguinal glands were enlarged, both sides. A scar was situated on the lower surface of the glans penis. In the left lumbar region was an irregularly shaped mass about 16 cm. in breadth and length and 8 cm. thick. The skin over it was normal and movable. The mass was somewhat fixed to the deeper structures, however. Its edges were poorly defined, especially to the left. To the right it was closely adjacent to the spinous processes. It was soft, somewhat fluctuant, and not at all tender to pressure. It was considered to be a deeply situated lipoma or a benign cyst. The patient's temperature was normal throughout the day. The Wassermann test of both the blood and the cerebrospinal fluid was negative.

Operation and Result.—Feb. 24, 1919, under local anesthesia, removal was undertaken. The mass was found to be a thick walled sac extending to the spinous processes on the right and beneath the latissimus dorsi muscle on the left. The sac was opened, and a large quantity of thick yellow fluid was drained out. A portion of the sac was removed and a rubber tube inserted. The wound was closed.

Microscopic examination of the tissue was done by Dr. William Ophüls, who reported: "Sections show fibrous wall covered on inside with caseous material. At edge of caseous masses epithelioid cells and very large multinucleated giant cells. In some of the latter spherical parasites with double contoured capsule. Coccidioidal granuloma, abscess of back."

March 1, under spinal anesthesia, the previous incision was reopened and enlarged, the latissimus dorsi muscle cut across, and the entire sac removed. The sac was adherent to two of the lower ribs (the tenth and the eleventh). The eleventh rib was rough, but showed no sign of active osteomyelitis. Some old cicatricial tissue could not be removed. The wound was swabbed out with tincture of iodin, the muscle repaired, and the wound closed.

There was considerable drainage from the wound, but it was entirely healed by April 8. In May the operated area began to swell, and, May 15, purulent fluid broke through the old incision. By June 16 the wound was again entirely healed, without swelling, and dressing was discontinued.

March 1, the patient was put on potassium iodid, 30 minims of the saturated liquor three times a day, which was rapidly increased until March 26, when he was taking 1 ounce three times a day, or 1,440 grains of potassium iodid daily. This rather large dose was continued until May 24, when the patient's condition was so much improved that the therapy was reduced to 15 drops of tincture of iodin in milk three times a day, which dosage was changed to 30 drops three times a day, June 1. He is still receiving the latter medica-

tion. At no time has the patient manifested any symptoms attributable to iodism.

At the present time, three months after the wound finally closed, the patient appears to be in perfectly good health, and there is no evidence of a recurrence of the disease either at the previous site or elsewhere.

Therapeutics

A Department Devoted to the Improvement of Therapy. A Forum for the Discussion of the Use of Drugs and Other Remedies in the Treatment of Disease.

USE AND ABUSE OF CATHARTICS *

(Continued from page 1613)

CASTOR OIL

The "soothing purgative" [1] is probably the best sobriquet by which to characterize the therapeutic qualities of this old reliable agent of notoriously nasty taste. Were it not for this unique combination of action it would probably have long ago been consigned to the limbo of the abandoned scourges of the ill. It is the fact that it is the least irritant of the powerful and reliable cathartics, the most potent of the evacuant oils, that renders it still indispensable.

To be a reliable purgative, a substance must produce a certain degree of irritation in the intestine, hence the term "soothing purge" may appear paradoxical. As is well known, this oil, bland and soothing in itself, yields an irritant—ricinoleic acid—on digestion in the intestine. Accumulation of this irritant, with possibility of excess of irritation, does not occur, partly because of the powerful peristalsis it provokes, which pushes it on and on, so that the small intestine empties itself into the colon in two hours instead of the normal eight, but chiefly on account of the fact that this unsaturated fatty acid is absorbed and assimilated, and capable of serving as food for man. Castor oil, be it remembered, is an article of diet in China, which goes to prove the saying, "De gustibus non est disputandum." Demulcent up to the moment of its digestion, the portion that is split up becomes momentarily irritant, to be reconverted into the soothing triglycerid of recinoleic acid—or castor oil—on absorption through the intestinal mucosa.

From this it is easy to understand that the action of castor oil is, to a certain extent, independent of dose, and that the dose is not much influenced by age. An infant may safely be given a teaspoonful or two—a dose that will usually physic an adult. The reason is that castor oil becomes activated in proportion to the amount of digestive juices available; and, of course, the larger the intestine the more juice there is. The quantity of oil that exceeds the digestive capacity is passed through unchanged, acting merely like so much petrolatum. Excessive action is therefore an impossibility. True, the usual dose for an adult is from 1 to 2 tablespoonfuls, and it must be admitted that such a dose is more reliable and thoroughly active than that of a teaspoonful or two. When, however, there is difficulty in administration, on account of the taste, the knowledge that a teaspoonful may suffice for an adult is of importance.

Because of the thoroughness and reliability of its action, and the impossibility of excessive effect, it is the purgative of choice for delicate invalids, infants, in pregnancy, and in patients with hemorrhoids or anal fissure.

For the reasons given, castor oil produces little griping; indeed, it is a good remedy in the treatment of intestinal colic. "The castor oil cure"—a course of daily doses of castor oil—has relieved many an obscure case of abdominal pain, and incidentally made the diagnosis.

In cases of abdominal pain in which an intestinal obstruction is suspected, castor oil is probably the least objectionable of the reliable cathartics. Here, too, it has diagnostic importance: for, if a liberal dose fails to act, more drastic cathartics will probably also fail, and ought not to be employed.

This oil is notorious for its tendency to leave the bowel sluggish after it has produced an evacuation; hence it is one of the worst drugs to give in the treatment of chronic constipation. On the other hand, in view of its soothing qualities, it is a cathartic to use during the cleaning-out phase of the treatment of acute diarrhea. Regarding its use in chronic diarrhea, Brunton writes: "Sometimes a teaspoonful of castor oil, given every morning, will do more for a chronic diarrhea than anything else I know."

I. A. Abt found, however, that even castor oil is not absolutely harmless, at least in children, as he discovered evidences of irritation in the last stools when teaspoonful doses were given on three successive nights. Single dram doses produced no irritation; and, as compared with magnesium sulphate and calomel, it seemed to have the least irritant action.

A dose of castor oil usually acts in from four to six hours; hence it should be given so that it will produce its effect while the patient is awake. Like other oils, it has a tendency to delay gastric evacuation, and therefore it is best given on an empty stomach an hour before breakfast.

It is possible to so refine this oil, that, provided it is protected from the influence of the air, it is almost devoid of odor and taste. Such oil is obtainable under the trade name of Kellogg's "Tasteless." Squibb's, or Allen & Hanbury's, are very similar. It should be procured in small bottles and used while fresh, the bottle being kept carefully corked.

A good way to prescribe castor oil is in elastic capsules, the 2.5 c.c. size being none too large for the average adult. To make such capsules go down easily, it is well to advise that they be dipped in water for a minute before taking them, and to remind the patient to look down while swallowing, just as he does when he swallows food. Holding the head up while attempting to take pills or capsules is one of the chief causes of inability to swallow them. Two of these capsules often suffice for a satisfactory result. If a much larger amount is required, it is best given floating, in the form of the so-called "sandwich" dose. If the following directions are carried out, the dose can be swallowed without tasting the oil:

In a small tumbler or medicine glass is placed a layer of thick syrup of any flavor desired. The glass is inclined in such a way as to coat its inside almost up to the rim. Then

* This is the seventh of a series of articles on the pharmacology, physiology and practical application of the common laxatives and cathartics. The first article appeared October 18.

1. We must differentiate between a purgative and a laxative. A laxative is an agent that produces formed stools, and is incapable of causing active purgation in any dose. The oils previously discussed are typical laxatives. A purgative is an agent capable of causing profuse evacuation of the bowels, but which does not act as an irritant poison in any dose. Caster oil belongs to this class of cathartics. A drastic is an active cathartic which in overdoses acts as an irritant poison.

the oil is poured into the center of the glass, care being taken that it does not run down the side. This is topped with a layer of pleasantly flavored alcoholic fluid, such as aromatic elixir. While the dose is being taken, the edge of the glass should be placed on the lower teeth, so as to avoid straining the oil through the teeth, to which some of it might adhere. When correctly taken, the oil follows the alcoholic fluid, gliding down the tongue on the surface of the syrup, without at any time touching the gustatory membrane. Of course, the patient must take the whole dose at one gulp.

The small infant needs no disguise for castor oil. Taste sensation is not sufficiently developed for it to object to so bland a thing as this oil. It will lick the oil from the spoon. As soon as taste sensation asserts itself, however, we should do something to disguise the dose for the child, unless we deliberately inflict it on the youngster as a punishment. As such, by the way, it is used as a remedy, prophylactic as well as curative, for the little fellow who habitually overeats, or the school child malingering because of a dreaded examination. In both instances, a day of fasting is a good adjuvant to the dose of castor oil. However, because of the prejudice against medicine in general which such practice is likely to engender, it is questionable whether some other method of punishment could not be easily found that would be less detrimental, just as threatening to call a physician when the child does not behave makes the youngster afraid of the doctor, when it would be to the child's interest to cultivate the feeling in the little one that the physician is the children's friend, the best friend a sick child can have.

Sweetening the castor oil and making it aromatic is a good way of disguising it for the child. By means of saccharin (0.05 per cent.) dissolved in alcohol (3 per cent.), castor oil can readily be sweetened. When this is flavored with aromatics (vanillin, 0.1 per cent, coumarin 0.01 per cent) and volatile oils (oil of cinnamon 0.3 per cent, oil of clove 0.1 per cent.), we have the aromatic castor oil of the National Formulary (oleum ricini aromaticum, N. F.), which is palatable excepting for the acridity left after it is swallowed. This can be eliminated by using a nonacrid oil, such as Kellogg's "tasteless." Children, however, take aromatic castor oil readily, even when made from ordinary oil, as they usually do not associate the after-sensation with the dose that has been swallowed. We may, therefore, consider the problem of the administration of castor oil to children solved by this means.

In view of the N. F. formula, which can be compounded by any pharmacist, it is hardly necessary to specify a proprietary preparation. Should such specifying seem expedient, oleum ricini dulce, marketed by the Pitman-Moore Company, Indianapolis, might be mentioned as an example of such a preparation on the market.

The following method is also of practical value, as it enables one to administer a "tasteless" castor oil without the patient's knowledge, and is useful, therefore, for those children who unreasonably object to medicine of any kind. By vigorously shaking "tasteless" oil, with a liberal excess—at least four times as much—of *hot* milk, in a bottle which they do not more than half fill, and then having the dose taken *immediately*, the mixture will be found scarcely distinguishable from rich milk. Such oil might also be given floating on *hot* soup. However, a protest should be entered here against administering ordinary castor oil mixed with an important food. This might create in the child a disgust against this article of diet that may last for years.

Thorough emulsification lessens the activity of castor oil, probably because in this form it is too rapidly digested and assimilated. A 35 per cent. emulsion of castor oil can readily be prepared and made palatable. A formula for such a one is to be found in the National Formulary under the name of emulsum olei ricini, N. F. It is flavored with tincture of vanilla. The British Pharmacopeia has a similar formula of different flavor (orange flower and cinnamon) under the title mistura olei ricini, B. P. However, as a babe might require a tablespoonful, and an adult a wineglassful or more, of such emulsions, these preparations are not economical ones, to say the least.

Medicine is still one of the dreaded bugbears of childhood, and castor oil is a leader of these. Let us admit that it is poor technic to insult the palate—the sensitive guardian of our system against chemical injury—when medicine is to be given. It is no longer necessary, and certainly inexpedient. The patient may take the dose; but he does so with open or smothered revolt.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

Pituitary Solution-Hollister-Wilson.—Liquor Hypophysis, U. S. P.—A sterilized solution of the water soluble extract of the posterior portion of the pituitary glands of cattle, preserved by the addition of chlorbutanol, each Cc. containing 0.095 Gm. It is standardized according to the method of Roth (Bulletin 100, Hygienic Laboratory, U. S. P. H. S.).

Actions and Uses.—See New and Nonofficial Remedies, 1919, p. 204.

Dosage.—From 0.3 to 1 Cc. to be injected intramuscularly or subcutaneously. May be increased or diminished according to indications.

Manufactured by the Hollister-Wilson Laboratories, Chicago. No U. S. patent or trademark.

Ampoules Pituitary Solution-Hollister-Wilson 1 Cc.—Each ampoule contains pituitary solution—Hollister-Wilson 1 Cc.

Posterior lobes of the pituitary body of cattle are dried and defatted and then extracted with slightly acidulated water, the solution boiled and filtered. The resulting extract is sterilized and then adjusted so as to correspond with the Pharmacopoeia standard.

Pituitary solution-Hollister-Wilson is a transparent liquid, colorless and having a faint characteristic odor.

Cancer.—Posters to warn the public against the danger of delaying operation in cancer cases have been prepared and circulated recently to the number of 4,500 among the largest industrial plants in Massachusetts. Through the cooperation of the Associated Industries of Massachusetts and the Retail Trade Board of the Chambers of Commerce the cancer posters have been displayed on the bulletin board of 1,100 of the largest factories and fifty of the largest department stores in the state. The posters offer free information regarding cancer to all who write to the Massachusetts Health Committee, 525 Boylston Street. The inquirers promptly receive the latest cancer circulars of the state department of health and the American Society for the Control of Cancer.—*The Commonwealth* **6**:121 (May-June), 1919.

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SATURDAY, NOVEMBER 29, 1919

THE FUNCTIONS OF THE THYMUS

To the scientific investigator there is something tantalizing in the existence of anatomic structures for which no clear-cut function is demonstrable. There are in the body numerous organs that are indisputably indispensable to life. Whenever they are extirpated experimentally or destroyed by disease, the loss of something that they contribute to bodily well-being manifests itself, and death ultimately ensues. Removal of the pancreas, the pituitary or the suprarenals affords an illustration of the fact that these structures are necessary to the organism. Other organs, such as the stomach and salivary glands, can be extirpated without untoward outcome. Their function is replaced to a certain sufficient extent by the action of other glands, although the contributory advantage of the removed tissues becomes evident in the modifications of physiologic performance that their loss entails. Without gastric secretion, alimentation may still proceed satisfactorily; but the danger of undue bacterial action in the absence of the antiseptic hydrochloric acid of the stomach is always imminent, and the need of careful selection of foods that can be managed by the enteric tract without preliminary gastric digestion is recognized. If not indispensable, this function is at least undoubtedly useful.

In contrast with these instances of physiologically necessary or desirable organs is the existence of other tissues that baffle the observer. No one can longer consistently maintain that the spleen is indispensable; nor, on the other hand, is the physiologist willing to admit that this large, conspicuous organ, which is so intimately connected with vital abdominal structures, is useless. Equally undetermined is the rôle of the thymus in the organism. It is known to undergo a normal involution in the earlier years of life; consequently the possibility of some interrelation between the thymus and growth (which likewise ceases in the course of a few years) has long been kept in mind by investigators. Thus it has been reported that in cases of arrested development or of general weakness in young persons, the thymus has been found to be persistent. However, so many factors are concerned in the complex changes attending growth that chance parallelisms of the sort just indicated have little if any significance to the critical student of the subject. Extracts of glands, as in the case of the pituitary and suprarenals, sometimes display physiologic potencies indicative of a special function. So far as is known, extracts of the thymus do not differ in effect from those made from other common cellular organs.

The extensive literature on the physiology of the thymus gland is peculiar in that it seems to represent a series of more or less conflicting personal impressions. The eagerness to find something tangible in the activities of the thymus has led investigators to grasp at almost any deviation from the normal that an observer has chanced to note whenever the structure has been interfered with. This is particularly true of extirpation experiments. We agree with a recent reviewer who remarked that it is doubtful whether an unprejudiced person, reading for the first time the literature on experimental extirpation of the thymus, could obtain from it any clear conception as to what the effects of removal of the thymus actually are; probably he would be at a loss to know whether to regard the thymus as essential to life or as an organ devoid of function, or at least of function demonstrable by extirpation.

The choice of experimental animal has not always been fortunate. For instance, Park[1] concluded that in all probability the thymus cannot be extirpated completely from the guinea-pig and, consequently, that the guinea-pig is an absolutely unsuitable subject for thymus extirpation, if it is desired to remove the entire gland. His work makes it appear that the thymus extirpations performed on the guinea-pig by all other investigators were partial and should be so regarded, as none of them examined their animals to make sure that remnants were absent, and that their conflicting results must be considered and interpreted in that light. Again, the severity of an operation that involves the opening of the thorax and extensive dissection from the beating heart in animals at an early age is such that some retardation of growth after thymectomy may naturally be expected apart from any function of the removed tissues themselves. Such factors have rarely been adequately controlled.

In view of this uncertainty, we welcome an excellent contribution, both critical and experimental, that has been made to the subject of thymus function from the departments of pediatrics and surgery at the Johns Hopkins University by Park and McClure.[2] They have performed the important service of pointing out the incongruities in the literature of the subject and the inadequacies of many experiments so limited, often, that chance variation or dietetic or environmental influences cannot be excluded as the controlling factors.

1. Park, E. A.: Extirpation of the Thymus in the Guinea-Pig, J. Exper. Med. **25**: 129 (Jan.) 1917.

2. Park, E. A., and McClure, R. D.: The Results of Thymus Extirpation in the Dog, Am. J. Dis. Child. **18**: 317 (Nov.) 1919.

In addition, the Baltimore investigators have made a large number of carefully controlled experiments in thymectomy on young dogs. An illustration of the sort of conception heretofore held is found in the publications of Basch,[3] for example. He concluded that the thymus is not essential to life but exercises a transitory function corresponding to its own life history; that its function is concerned especially with the growth and development of bone, and intimately connected with the process of calcification. He suggested, at least, that growth bears some relation to the size of the thymus, supporting the theory by necropsy findings in a litter of three animals which, having exhibited in life great differences in size, showed at the postmortem correspondingly great differences in the size of their thymus glands.

Park and McClure are convinced that thymus function is absolutely unessential to life. In contrast with such contentions as have just been mentioned, they defend the thesis that extirpation of the thymus produces no detectable alteration in the hair, teeth, contour of the body, muscular development, strength, activity or intelligence of the experimental animal. Extirpation of the thymus probably does not influence growth or development. However, the possibility that it may cause retardation in development and delayed closure of the epiphyses cannot be excluded absolutely. Extirpation of the thymus probably produces no alterations in the organs of internal secretion. However, with commendable scientific caution the authors say it is possible that extirpation of the thymus produces well marked changes in the organs of internal secretion in the period immediately following thymectomy which was not covered by their experiments.

There has of late been a popular impulse, so to speak, toward classifying the thymus as an organ producing an "internal secretion." As Hoskins[4] has recently contended, the proof of this has never been furnished. He himself considers that the thymus functions as a lymphoid organ in infancy and childhood when a large number of lymphoid cells and leukocytes are needed, and involutes, like an enlarged tonsil, when its presence no longer is necessary. Whatever the facts are, we may hereafter insist, thanks to the excellent American studies of Parks and McClure, that the preconceived ideas of investigators shall no longer dominate the teaching with respect to thymus function; and that positive conclusions hereafter shall be drawn "only from evidence that is overwhelming."

3. Basch, K.: Bemerkungen zu Rudolf Fischl's Experimentelle Beiträge zur Frage der Bedeutung der Thymussextirpation bei jungen Thieren, Ztschr. f. exper. Path. u. Therap. **2**: 195, 1905; Ueber Ausschaltung der Thymusdrüse, Verhandl. d. Gesellsch. deutsch. Naturf. u. Aerzte, 1902, Leipzig **2**, Part 2, 1903, p. 322; Wien. klin. Wchnschr. **16**: 893, 1903; Ueber die Ausschaltung der Thymusdrüse, Jahrb. f. Kinderh. **64**: 285, 1906; Beiträge zur Physiologie und Pathologie der Thymus, II, Ueber die Beziehung der Thymus zum Nervensystem, ibid. **68**: 668, 1908.

4. Hoskins, E. R.: The Growth of the Body and Organs of the Albino Rat Affected by Feeding Various Ductless Glands (Thyroid, Thymus, Hypophysis and Pineal), J. Exper. Zool. **21**: 295-346, 1916; Is There a Thymic Hormone, Endocrinology **2**: 241-257 (July-Sept.) 1918.

AN ENGLISH EXPERIMENT IN SOCIAL MEDICINE

In England, the medical profession and the public are apparently in a state of readjustment. Social insurance in the four years preceding the war, the needs and emergencies of war times, and the discussion of the last year culminating in the creation of a national health ministry, all have combined to arouse and concentrate interest and discussion on the improvement of medical services. An experiment now being carried on in Glasgow is, therefore, of special interest. Dr. David McKail, lecturer on public health at St. Mungo's College, and Mr. William Jones, clerk and treasurer of the Glasgow Insurance Committee, have worked out a plan for a public medical service as a substitute for the social insurance scheme now in operation. Beginning with a criticism of social insurance, which they condemn for failure to provide any form of institutional treatment and for furnishing medical services to only about one third of the total population, they propose to build up a complete medical service, furnishing unrestricted treatment to every citizen needing it, and involving the enrolment of the medical profession and the public control of all general hospitals and infirmaries.

The proposed plan is founded on the experience gained in efforts to meet war conditions, when for a time dispensaries were established in Glasgow for centralizing the patients of absent physicians. The city was divided into districts, and a consultation center established in each. The Bridgetown District, with approximately 100,000 inhabitants, is taken as a convenient unit for study. The volume of sickness as shown by the number of dispensary visits is found to be 3.11 per person per year, varying from a maximum of 7.5 visits for the first year of life to a minimum of 1.32 for ages from 15 to 25. House visits are found to amount to one fourth of dispensary visits. This amount of professional work would require twenty-seven physicians, working thirty-three hours a week. A 25 per cent. addition for seasonal increases would necessitate a staff of thirty-three physicians, each of whom would have an annual vacation in the summer or fall. Births would average nine or ten a day, requiring four obstetricians. Minor surgery and various specialties would require six, making a total staff of forty-three medical men, exclusive of institutional and consultant service. These men are to be graded in three classes, according to age, experience, etc. Each junior would be allowed time and be required to do graduate medical work and special study with a view to his advancement in the service. Salaries would range from $1,500 to $2,000 for juniors, $2,500 to $3,500 for middle grades, and $4,000 to $4,500 for seniors. Provision is also made for dentists and for dental treatment. It is estimated that the expenses of such a medical service could be defrayed by a tax of 1s. 10d.

in the pound, imposed in the same manner as the public health assessment, and that the entire expenses of operation could be supplied at an individual cost below the seven shillings capitation basis on which social insurance is now being conducted.

An interesting side light is thrown on the provision for free choice of physicians, under the social insurance plan now in operation. A careful study of the district shows that since the introduction of social insurance and the panel system in Glasgow, those affected have not made an effort to exercise any choice in the selection of physicians, but have gone to the nearest and most conveniently located physician. The advantages for the physician of the proposed public medical service are the limitation of working hours, the guaranteed adequate income, the avoidance of waste of time and energy, the opportunity for increased income, the accumulation of experience, and the opportunity for graduate and special work for every practicing physician. The advantages claimed for the individual are better treatment at a much less expense and for the community, economy of administration, and the prevention of a large amount of disease. The London *Lancet*,[1] in commenting on the proposed plan, expresses the hope that the authors may have an opportunity of testing it, as success or failure would alike afford much needed experience.

1. An Experiment in Public Medical Service, Lancet 2: 649 (Oct. 11) 1919.

MEASURING METABOLISM

The estimation of the basal metabolism of man as an index to the existence of certain pathologic manifestations of the bodily functions is becoming quite common as a result of the improvement of respiration apparatus which enables suitable experimental observations to be made with relative ease by a trained clinician at the bedside. The history of medicine affords many other interesting illustrations of the readiness with which the physician appropriates, to diagnostic use, instruments of precision and methods of analysis that are practicable in form and execution. The clinical thermometer, the sphygmomanometer, the serologic tests for syphilis, the quantitative determination of gastric and duodenal secretory factors—these and numerous other illustrations of the prompt adaptability of the alert physician to the possibilities of better diagnosis testify to the tendency of exact science to replace empiric judgment whenever circumstances make it worth while.

An indispensable feature involved in the use of any method of precision in medicine is the establishment of normal values. What is the normal range of body temperature? What are the limitations of blood pressure estimations? How are they affected by physiologic or environmental factors quite apart from disease processes? Such inquiries must be answered clearly before aberrant values can lay claim to correct diagnostic significance. In the case of the basal metabolism, likewise, it has become essential to have standards by which the data obtained may be evaluated. Size, age and sex must be taken into account. To the establishment of the foundations of calorimetric research, American investigators, notably at the Carnegie Nutrition Laboratory in Boston and the Russell Sage Institute of Pathology in Bellevue Hospital, New York, have made fundamental contributions, many of which have been specifically reviewed from time to time in THE JOURNAL. We shall not discuss the still debated questions, such as the relative significance of body surface and weight, in the calculation of units of metabolic performance. More important for the clinician is the fact that body weight, stature and age of the subject must be considered in predicting basal metabolism.

With this conviction in mind, Harris and Benedict[1] have recently issued standard "multiple prediction tables for normal basal metabolism" in both man and woman. In accord with what has been asserted in the past, the use of the standards shows the existence of a well marked differentiation in the level of metabolism of men and women, and shows that the differences are persistent throughout adult life instead of disappearing in later years as maintained by Sondén and Tigerstedt. There is no evidence for such differentiation in newborn infants. The average woman shows a daily heat production about 300 calories less than the average man. If correction is made for body size by expressing heat production in calories per kilogram of body weight, she shows an average heat production of about 1.2 calories per unit of weight less than the man. If body surface is used as the basis for comparison, the woman shows daily heat production approximating 76 calories per day per square meter less than that of man.

Data recently secured by the Food (War) Committee of the Royal Society of London substantiate this general outcome. Thus Rosenheim[2] concludes, starting from the contention that the unit of surface area eliminates the same amount of heat in the normal adult, that the figure for women is about 7 per cent. lower than that for men. The energy expenditure of women in various activities has likewise been ascertained by the English committee in order that they might be assured of a fair assessment of their share in the available food supply during the period of food stringency. The outcome determined under conditions of factory work shows the following increments of heat production during work and walking: light work, 72 per cent.; medium hard work, 109 per cent.; hard work, 181 per cent.; walking, 274 per cent. It may come as a surprise to learn that the energy expenditure

1. Harris, J. A., and Benedict, F. G.: A Biometric Study of Basal Metabolism in Man, Pub. 276, Carnegie Institution of Washington, 1919.
2. Rosenheim, O.: A Preliminary Survey of the Energy Expenditure and Food Requirements of Women Workers, Proc. Roy. Soc., Series B, 91: 44 (Aug. 6) 1919.

during one hour's horizontal walking is in all cases higher than that of even the hardest work on the lathe. Women expend about the same amount of energy as do men in horizontal walking, the "maximal economic velocity" being about 3 miles an hour (or 80 meters a minute). As has been demonstrated in the case of athletes, training works for economy of energy expenditure. A waitress is likely to walk with greater physiologic economy than a person of sedentary habits. It is known that during adult life the basal heat production of the adult continuously decreases. This is one of the accompaniments of age. Perhaps the failure of rejuvenescence in the human individual is associated with his inability to speed up metabolic performance at a juvenile rate. Pulse rate, which is in some degree an index of metabolic rate, normally decreases with age. Statistics gathered by Harris and Benedict[1] express the relationship between age and metabolism in terms of an actual decrease in daily heat production per year amounting to about 7.15 calories in men and 2.29 calories in women. The decrease in heat production per kilogram of body weight is more nearly identical in the two sexes, namely, 0.112 calory in men and 0.124 in women. Such tests of the rate of change as have been made throughout the age range of adult life indicate that it is essentially uniform. Senescence and metabolism are thus interrelated.

Current Comment

HEALTH LEGISLATION IN CONGRESS

After a continuous session of exactly six months, the first session of the sixty-sixth congress has adjourned without enacting any beneficial public health legislation; nor was any legislation detrimental to public health enacted. The Senate made progress with some measures of interest to the medical profession, while practically no consideration was given to any of this legislation by the House. This is due primarily to the fact that the Senate has a committee charged with the consideration of medical legislation, known as the Senate Committee on Public Health and National Quarantine, while the House has no such committee, nor any committee that corresponds to it. The Senate committee considered and reported favorably a bill to provide $1,000,000 for the study and treatment of influenza and kindred diseases, introduced by Senator Harding of Ohio; a bill to establish a division of tuberculosis in the United States Public Health Service, introduced by Senator Randsell of Louisiana; a bill making appropriations for the care and treatment of drug addicts, introduced by Senator France of Maryland, and a bill to admit government employees suffering with tuberculosis to army, navy and Public Health Service hospitals. All of these measures are now on the Senate calendar, having been reported favorably, and are in line to be called up at the beginning of the next session, Monday, December 1. The Senate passed a bill providing for the retirement of female army nurses, introduced by Senator Wadsworth of New York, and this measure will be before the House at the coming session for final action. The House Committee on Pensions favorably reported a bill to pension members of the Female Nurse Corps of the war with Germany, introduced by Congressman Fordney of Michigan. The regular governmental appropriation bills, including the necessary appropriations for the Medical Corps of the army, navy and U. S. Public Health Service, were passed. A number of other medical measures were introduced in both the Senate and the House, but no action was taken on them. Some relate to the establishment of the Department of Health in the federal government, and have been referred to in THE JOURNAL from time to time, while others provide for the establishment of bureaus of rural sanitation and maternity, and infancy hygiene in cooperation with the state governments. It is quite evident to those who have watched, or who are interested, in medical and health legislation, that, so far as congressional legislation is concerned, one of the big needs of the time is the creation of a committee on public health in the House of Representatives of the United States Congress.

DRUG POTENCY IN WAR-STRICKEN POPULATIONS

Almost every physician has seen, at times, in individual cases, surprising and unexpected pharmacologic responses to the administration of certain drugs. He charges to obscure idiosyncrasy the unanticipated effects of substances that have a well known potency in standard dosage. Progress in the study of pharmacology and therapeutics tends to reduce the number of instances in which ignorance of the cause of either hypersensitiveness or resistance to a drug, as the case may be, must be veiled by the word "idiosyncrasy." The phenomena of tolerance to drugs are gradually becoming unraveled and explicable; the limitations of dosage are being rationalized because the scientific spirit of our times is no longer content to accept vague or meaningless phrases in place of lucid explanations. On several occasions THE JOURNAL has stated that the war-time diet with its attendant undernourishment had brought about pathologic conditions in indirect ways in some places. The incidence of certain diseases has evidently increased because of a lowered resistance on the part of a food-impoverished population. Other maladies, such as cancer and diabetes, have become less conspicuous. Several clinicians have recently recorded a greatly increased sensitiveness of persons in the undernourished districts to the effects of commonly administered drugs.[1] Treatment with mercurials and arsphenamin in usual doses in cases of syphilis has resulted in increased instances of mercury poisoning. Icterus is reported more frequently as an undesired manifestation of this therapy. A profound narcotic effect has followed the use of small doses of

1. Zernik, F.: Kriegsunterernährung und Arzneimittelwirkung, Deutsch. med. Wchnschr., July 31, 1919, p. 858. Rumpel: Kriegswirkung auf die Ernährungsverhältnisse, Morbidität und Mortalität, ibid., June 19, 1919, p. 704.

barbital which were commonly employed with ordinary soporific outcome in prewar days. Patients who formerly tolerated much larger doses of morphin derivatives without untoward symptoms succumbed to the customary prescriptions with signs of profound narcosis. The objectionable cutaneous manifestations of certain drugs have become conspicuous in the war-stricken population. Such instances suffice to show the unanticipated, but by no means inexplicable interrelations of widespread undernourishment and practical therapeutics.

FINDING THE PROVERBIAL NEEDLE

Under General News last week was an item to the effect that an investigator of stammering desired to secure a stammerer whose skull had been trephined. He wished to determine whether or not there was any relation between stammering and cerebral congestion. While there are thousands of stammerers in the United States, and an unknown number of persons whose skulls have been trephined, it seemed extremely unlikely that the combination might exist in any considerable number of cases. The request was published with small hope of response. But the first mail on Monday morning brought the name and address of such a person. The legendary difficulty of finding a needle in the haystack is thus shown to be not such a difficult matter after all, providing the right method—or, as in this case, the right medium—is employed.

UNTOWARD REACTIONS AFTER ARSPHENAMIN ADMINISTRATION

The exact nature of the reaction due to individual idiosyncrasies that sometimes follows the administration of certain drugs is perhaps not always the same. In some ways these reactions resemble, at least superficially, the phenomena of anaphylaxis, or hypersusceptibility. Very few of the drugs concerned, however, are protein bodies, and anaphylaxis strictly speaking is hypersusceptibility to foreign protein. It has been suggested that these reactions be described as "anaphylactoid reactions." That such reactions occur after arsphenamin administration was first noted by Hoffman. The phenomena usually result after repeated intravenous injections of the drug. There is a sudden congestion and swelling of the face, or a cyanosis of the face with a feeling of congestion in the head. The patient complains of a feeling of oppression in the chest, with cough, dyspnea and pain in the back. Frequently mental anguish is present These symptoms usually develop suddenly during the administration of the drug, and disappear when this is stopped. Hirano[1] has been working on this problem in Kitasato's laboratory for two or three years. He concludes that so far as anaphylactoid reactions to arsphenamin are concerned, the phenomena are connected with the action of the drug on the suprarenal glands. He points out that Brown and Pearce showed experimentally many years ago that arsenic has a selective action on the suprarenals. His experiments show that large doses of arsphenamin or of neo-arsphenamin lead to a marked reduction in the chromaffin substance of the suprarenals, and that the epinephrin content both of the blood and of the gland itself undergoes a marked diminution after the injection of even therapeutic doses of arsphenamin. He thinks that the anaphylactoid symptoms are produced when this sudden reduction in the epinephrin content of the blood is so great that a fresh supply cannot be furnished promptly by the suprarenals. If these observations are correctly interpreted, they point directly to the treatment of anaphylactoid phenomena after arsphenamin administration by the itramuscular injection of epinephrin. Hirano's results and those of Pearce and Brown are also suggestive as throwing light on the possible cause of the pigmentation of chronic arsenic poisoning. May it not be that this pigmentation is not directly associated with the drug itself but is an indirect effect produced by its action on the suprarenal glands?

1. Hirano: Kitasato Arch. Exper. Med. 2: 1, 1919.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

COLORADO

Testimonial to Health Officer.—Dr. George B. Gilmore, who served as health officer of Colorado Springs during the influenza epidemic last year, was presented by the city council with a framed copy of a resolution adopted by that body. Mayor C. E. Thomas made the presentation address.

Personal.—Dr. M. Ethel V. Fraser, Denver, who received a decoration from the French government for her work in the Chateau Thierry sector, has returned from France.—— Dr. Frost C. Buchtel, Denver, who has been seriously ill, has gone to Hot Springs, Ark., for his convalescence.—— Dr. Charles Fox Gardiner, Colorado Springs, has been reelected chairman of the Pikes Peak chapter of the American Red Cross.

ILLINOIS

Hospital Notes.—Christian County has voted in favor of levying a tax for the building and maintenance of a county tuberculosis sanatorium.

Central Illinois Physicians Meet.—At the annual meeting of the District Medical Society of Central Illinois, held in Pana, October 30, Dr. Henry E. Monroe, Shelbyville, was elected president; Dr. Robert L. Morris, Decatur, vice president; Dr. Franklin A. Martin, Pana, secretary, and Dr. Lotharo L. Morey, Vandalia, treasurer.

Personal.—Dr. Josephus J. Brown, for nearly forty-one years a practitioner of Troy, has disposed of his business and property interests and announces his retirement. He expects to reside in California.——Dr. Frederick D. Culbertson, Rushville, has let the contract for the erection of a new medical and surgical institute at Rushville, to be known as the Culbertson Hospital.

Chicago

Deaths from Denatured Alcohol.—The coroner's office states that fourteen deaths, from the use of denatured alcohol as a substitute for whisky, have been reported since September 15. Many cases of blindness have also been reported which are attributed to the use of denatured alcohol as a beverage.

Low Death Rate.—In spite of the estimated increase in population of a quarter million, since 1915, the death rate of Chicago is lower thus far, this year, than it was four years ago. During the same period in 1916, 31,205 deaths were reported, in 1917, 33,281; in 1918, 37,679; and in 1919, up to November 15, only 29,983.

Dr. Emerson in Chicago.—At the November 19 meeting of the Chicago Medical Society, Dr. William R. P. Emerson, professor of pediatrics in Tufts Medical College, Boston, pre-

sented the results of some of his researches on nutrition.—— Dr. Emerson also addressed the Chicago Pediatric Society, November 18, on the subject of "The Malnourished Child."

INDIANA

Personal.—Dr. Richard C. Mackey, Hobart, superintendent of schools, suffered a cerebral hemorrhage, November 2.

Hospital Site Purchased.—The county council of Vigo County has approved the plans of the county commissioners for the purchase of the farm of Dr. Joseph Frisz, 8 miles north of Terre Haute, as a site for the county tuberculosis hospital, and has appropriated $22,275 as the purchase price.

Mental Hygienists to Meet.—The annual meeting of the Indiana Society for Mental Hygiene will be held at the Hotel Severin, Indianapolis, December 15, under the presidency of Dr. William L. Bryan of the University of Indiana. At this meeting the urgent needs of the state in the matter of care for its mental defectives will be presented.

Hospital Items.—It has been announced that the proposed $100,000 sanatorium for the disabled and retired Presbyterian ministers of the United States will be located on a site 10 miles east of Evansville, adjoining the Thornton Home for retired ministers.——The Kosciusko county memorial committee reached the decision that a hospital would be a most practicable memorial to the county sailors and soldiers.——Construction work has been started on the new Methodist Hospital, Gary.——The new Bloomington Hospital, erected by the local council of women of the city at a cost of about $75,000, was open for inspection November 7, 8 and 9, and patients, November 11. The present hospital building is to be used as a home for nurses.

IOWA

Smallpox Increasing.—Fourteen cases of smallpox have been reported in Davenport, since November 5. Four of these were in one house.

Personal.—Dr. Charles E. Block, Davenport, has been appointed physician of Scott County, succeeding Dr. Sidney G. Hands, resigned.——Dr. John W. Watzek, Davenport, has been elected treasurer of the Crossett Timber Company.

KANSAS

Personal.—Dr. William V. Tucker, Elkhart, representative for Morton County in the legislature, has retired and moved to his farm in Oklahoma.

Reception to Service Men.—The meeting of the Barton County Medical Society at Great Bend, October 16, was devoted to honoring the ten of the twenty-four practitioners of the county who entered the army and saw active service during the war. The welcome home address was delivered by Dr. Horace C. Embry, Hoisington, and Dr. Elmer E. Morrison, Great Bend, officiated as toastmaster.

LOUISIANA

Physicians Injured.—Drs. Adolph Jacobs and David Adiger, New Orleans, formerly house physicians of Charity Hospital, were injured, November 14, when an automobile in which they were riding was overturned on Gentilly Road. The injured physicians were taken to Touro Infirmary.

Bubonic Plague.—The outbreak of bubonic plague at New Orleans is said to be under control. Up to date, five cases have occurred with two deaths. The dock board has begun the ratproofing of the river front, and the railroads are undertaking the same work at their terminals. All ships are being fumigated and the fending-off and rat-guard ordinances are being strictly enforced. Since November 1, 3,497 rats have been trapped. Of these, twenty-eight were found to be infected with plague and sixty-four more are under suspicion.

MAINE

Physicians' Licenses Revoked.—An official report shows that at its meeting, held November 12 and 13, the Maine State Board of Registration in Medicine revoked the licenses of Drs. Dennis J. O'Brion of Portland and Lemuel F. Noble of Boston on the ground that they had been convicted in the federal court, under the Harrison Narcotic Law, of illegally dispensing drugs.

MARYLAND

Personal.—Dr. Elijah J. Russell, Baltimore, has been appointed surgeon to the Baltimore City Fire Department.

Tuberculosis Campaign.—Tuberculosis caused an economic loss in Baltimore last year of approximately $3,500,000, according to Mr. A. E. Sinks, executive secretary of the Maryland Tuberculosis Association, who is making a survey of health conditions in the city and state, preliminary to the health campaign by the National Tuberculosis Association.

Herter Lectures End.—The final lecture of a series under the Herter Foundation was given at the Johns Hopkins Hospital by Dr. Henry Hallet Dale, director of the department of biochemistry and pharmacology, Medical Research Committee, National Health Insurance, London, England. His first lecture was on "Capillary Poisons and Shock." In the second he discussed "Anaphylaxis," giving the theory of action of drugs in general and the results of personal research. The third lecture was devoted to "Chemical Structure and Physiological Action," in which the results of the most important research work being conducted in England were given.

MISSOURI

Personal.—Dr. David F. Morton, Perryville, is ill in a hospital in Rochester, Minn.——Dr. Oliver C. Gebhart, St. Joseph, was elected president of the Visiting Nurse Association of St. Joseph, at the annual meeting, October 27.

Base Hospital Reunion.—A reunion banquet of the officers and enlisted personnel of Base Hospital No. 28 was given at the University Club, Kansas City, November 6. About thirty-five were present, and Dr. John F. Binnie officiated as toastmaster.

Red Cross Appropriation for Clinic.—The executive committee of the American Red Cross has appropriated $5,000 to the state board of health for venereal disease control work, with the understanding that a venereal clinic be established in St. Joseph.

Unlicensed Practitioner Fined.—Dr. Carl E. Schulte, St. Louis, is said to have pleaded guilty in the St. Clair County Court, October 31, to the charge of practicing medicine in Illinois without a license, and to have been assessed a fine of $50 and costs.

Endowment for Pharmacology.—Authentic reports show that Washington University Medical School has received $300,000 to endow its department of pharmacology. Half of this sum was given by the general education board and the other half was raised by the medical school.

Conservation of Vision.—The bill providing for the compulsory use of a prophylactic in the eyes of the newborn failed of passage at the last session of the legislature, and the Missouri State Association for the Blind has already opened its new campaign looking for the presentation of the bill at the next session.

Obstetricians Resume Session.—The first session of the Kansas City Obstetrical Society since the United States entered the war was held, November 4. Dr. Palmer Findley, Omaha, gave an address on "Venereal Control of Women in Detention Homes, in War and Peace," and Dr. Grandison D. Royston, St. Louis, presented a paper on "Complications of Pregnancy and Labor." An informal dinner was given to the speakers at the Kansas City Club.

Kansas City Veterans of the World War.—Ex-officers of the Medical Corps of the U. S. Army and Navy organized the Kansas City Medical Veterans of the World War, November 3. The object of the association is for the promotion of fellowship, the preparation and recording of history, and the perpetuation of memory of the days of service, for the benefit and improvement of the local medical profession. Dr. George E. Bellows was elected president, Dr. John F. Binnie, vice president, and Dr. Ernest G. Mark, secretary-treasurer.

NEW YORK

Personal.—Dr. Francis E. Fronczak, health commissioner of Buffalo, was elected president of the All-Polish Convention, November 10.——Dr. Frank H. Latton, Albion, has been elected a member of the lower house of the New York legislature.——Dr. George W. Lane was reelected mayor of Corning, November 4.——Mr. H. Burdett Cleveland, who has been connected with the sanitary engineering department of the New York State Department of Health for fourteen years, has resigned his position as principal assistant engineer to enter consulting and designing engineering practice in New York City.

Joint Clinics for Mental Diseases and Defects.—A program for a state-wide system of joint clinics, under the

auspices of the State Hospital for Mental Diseases and the State Commission for Mental Defectives, is being worked out. The purpose of these clinics is to provide, in the various communities, facilities for the examination of patients with nervous and mental disorders, and to supply expert advice and suggestion as to treatment. The first of these clinics was opened recently at Watertown, through the cooperation of Dr. William C. Sandy and Dr. Paul G. Taddiken, superintendent of the St. Lawrence State Hospital, Ogdensburg, and plans are under way for the establishment of two additional clinics, one in cooperation with the Binghamton State Hospital, Binghamton, and the other with the Willard State Hospital, Willard.

New York State Society Condemns Health Insurance.—A special meeting of the House of Delegates of the Medical Society of the State of New York was held at Albany, November 22, to consider the report of the Committee on Compulsory Health Insurance. Dr. Harvey R. Gaylord of Buffalo, chairman of the special committee, presented a report, stating that the essential components of all compulsory health insurance schemes are the payment of a cash indemnity during a relatively brief period of incapacity due to illness, and provision for medical, dental and nursing care and attendance, hospital accomodations, maternity care and medicines during illness. The advocates of social insurance make two main assertions, that a large amount of poverty is due to illness causing unemployment and loss of income, and that a large number of people receive inadequate and insufficient medical attendance. The remedy proposed is the establishment of a state administrative machinery to administer a system of compulsory state health insurance. The committee is of the opinion that the belief that a large amount of poverty is due to unemployment caused by illness is based on *a priori* reasoning, and that the preponderance of evidence is against this assumption. The statistics of the Labor Bureau of New York City show that disability from all causes is responsible for only 5.7 per cent. of unemployment. The committee is unable to find any reliable evidence showing that medical attendance in the state is either deficient in quantity or defective in quality and is not convinced that the proposed plan of compulsory health insurance would benefit or improve the quality of medical services, while the inquisitorial powers proposed for the state industrial commission and the local boards of directors would tend to submerge and nullify the activities of the present state department of health. The committee is of the opinion that the relative morbidity, mortality, infant mortality and maternity mortality rates have been much more materially reduced in the United States in the last twenty years than they have been in those countries in which compulsory health insurance prevailed. The committee, therefore, finds: First, that there is no necessity for social insurance in New York; second, that in those countries where it has been in operation for many years, it has caused a deterioration in medical morale and medical service, and that it would have the same effect in New York; third, that in comparison with those countries where social insurance has been in operation, the United States has shown a more marked reduction in both mortality and morbidity; fourth, that there is danger of social insurance, if adopted, gradually undermining the extremely valuable functions of the state department of health; fifth, that owing to the paucity of accurate and unimpeachable data, the committee recommends that the legislature of 1920 be requested to appropriate enough money for a survey of the amount and character of illness in the State of New York and its economic relation to the commonwealth; sixth, that if additional legislation is to be enacted at present, it should provide for a greater development of preventive medicine, the extension of present county and municipal health functions and the wider utilization of existing institutional, clinical facilities for the diagnosis and treatment of disease. The committee, therefore, recommended that the House of Delegates and the Medical Society of the State of New York unqualifiedly oppose the enactment by the legislature of any law instituting a system of compulsory health insurance against sickness. Dr. S. S. Goldwater presented a minority report consisting of twenty-six principles which should be observed in any social insurance legislation. The majority report of the committee was unanimously adopted.

New York City

Personal.—Dr. Russell Pemberton sailed for Washington, October 9, as ship's physician and observation officer of the nonmagnetic ship *Carnegie* for a cruise in the South Atlantic and Pacific oceans.——Dr. Thomas F. Reilly has been appointed visiting physician to St. Vincent's Hospital.

Hygiene and Preventive Medicine Department Organized.—The organization of the new department of hygiene and preventive medicine at Cornell University has been completed, and the following appointments to the staff have been made: Dr. Haven Emerson, professor of hygiene and preventive medicine, and director of the department; Dr. James Stevenson Allen, Genoa, assistant professor of hygiene and preventive medicine and assistant director of the department, and Dr. Frank C. Balderrey, medical advisor.

School for Crippled Children.—The Free Industrial School for Crippled Children, 471 West Fifty-Seventh Street, has opened its fall term with a full attendance. This school embraces the Lulu Thorley Lyons Home for Crippled and Delicate Children, Claverack, N. Y., where the children spend the summer after the close of the school year. The children taken by this school are not eligible for public school life as they are not physically able to attend, but here are enabled to pursue the same course of studies. A special study is made of the case of each child who receives such medical and surgical attention as is required. The school provides hot lunches, autobus transportation, and clothing when necessary for the children. The joint societies celebrated their twentieth anniversary by beginning a drive for $100,000 for their permanent fund.

OHIO

Banquet to Service Men.—The Medical Society of Logan County made the chief feature of its annual dinner at Bellefontaine, November 7, a welcome to the members of the society who had been in active service during the world war. Dr. Robert H. Butler, Bellefontaine, acted as toastmaster.

Personal.—Dr. John R. Pipes has been elected mayor of Avon.——Dr. Robert Longfellow, Toledo, has been elected dean of the staff of the Ohio Soldiers' and Sailors' Home, Xenia, succeeding Dr. Charles J. Shepard, Columbus.——Dr. John C. Larkin has been made a member of the volunteer visiting and consulting staff of the home.

University of Cincinnati Notes.—At the meeting of the board of directors of the University of Cincinnati, October 14, a donation of $5,000 for a scholarship in the college of medicine, by Mrs. Isaac A. Wyler, was announced. This scholarship is given in memory of her son, Dr. Jesse S. Wyler, Cincinnati, who died from influenza during the epidemic last year.——Dr. John C. Oliver was appointed acting dean of the medical college during the illness of Dr. Christian R. Holmes, both of Cincinnati.——Dr. Clarence W. Betzner, Cincinnati, was appointed attending orthopedist to the Cincinnati General Hospital.

OKLAHOMA

Laboratory for Medical Society.—At the recent meeting of the Washington County Medical Society it was decided to purchase equipment at a cost of $1,000, and to establish a bacteriologic laboratory for the use of the physicians of Bartlesville.

Clinic Organized.—The Oklahoma City Clinic has been organized by Drs. Abraham L. Blesh, William W. Rucks, John Z. Mraz, David D. Paulus, Marvin E. Stout, and others. The clinic has purchased Wesley Hospital which has a capacity of sixty-five beds.

University Hospital Dedicated.—Thursday, November 13, the regents and faculties of the University of Oklahoma held special exercises dedicating the new State University Hospital which has just been completed in Oklahoma City. The hospital contains 175 beds, including twenty-five in private rooms. The building cost approximately $200,000, and the equipment, $76,000. Approximately $200,000 per year will be required for maintenance. The dedicatory address was given by Dr. Jabez N. Jackson of Kansas City, Mo.

Tablet to Staff Members Unveiled.—In memory of Major Robert Lord Hull and Frank Bruner Sorgatz, both of whom died in military service during the influenza epidemic, the sisters of St. Francis and St. Anthony's hospitals, Oklahoma City, erected a bronze tablet which was unveiled at a memorial service. Dr. Robert M. Howard presided. Dr. John W. Riley spoke of the life and work of Dr. Sorgatz, and Drs. Arthur B. Chase and George A. LaMotte, spoke on Dr. Hull. The tablet was unveiled by Dr. H. Coulter Todd.

PENNSYLVANIA

Personal.—Dr. Theodore L. Hazlett, Pittsburgh, has been appointed medical director of the Mont Alto Sanatorium, succeeding Dr. Frederick C. Johnson, Mont Alto, who has been on leave on account of illness.

Schools Teach Diet.—Classes in "eating" will shortly be established in three schools and include a course of study for both parents and pupils in the causes of malnutrition. There will be nurses in charge of each school and a dietitian. Intensive health work along this plan is to be conducted at the Campbell School, Eighth and Fitzwater streets, the Hawthorne School, Twelfth and Fitzwater streets, and the Meredith School, Fifth Street above Fitzwater. Each of these schools will be equipped with scales and other special apparatus necessary for the work. The weight of the children will be recorded, and a health card filled out for them. Under the new plan of health education, which it is hoped eventually to extend to other schools, a pupil's health card will follow him through all his public school career. Malnutrition, the school medical inspectors state, is not due entirely to poverty. Causes which contribute are improperly prepared food, too much candy and eating between meals.

Philadelphia

Personal.—Dr. Charles Lincoln Furbush, sanitation expert, was decorated with the order of Companion of St. Michael and St. George by the Prince of Wales, November 22.—— Dr. Howard S. Anders sustained a fractured rib, when a trolley in which he was riding collided with another car

War Physicians Dinner Guests.—Sixty physicians who served in the army or navy during the world war were the guests of honor at a reunion dinner given by the Homeopathic Medical Society at Philadelphia at the Adelphia Hotel, attended by 160 physicians. Dr. Gilbert J. Phalen was toastmaster.

Graduate School of Medicine Opens.—The Graduate School of Medicine of the University of Pennsylvania opened in October, and according to George H. Meeker, dean of the University of Pennsylvania, there are sixty-three physicians in actual attendance, about thirty have been turned away because of the present limited accommodations, and nearly fifty are already applicants for the courses of the next semester, which begins Feb. 9, 1920. The general plan for the University Graduate School of Medicine is as follows: A central university organization as now or to be constituted, having as its special business graduate medical education. The cooperation of other university groups, especially the Undergraduate School of Medicine. The cooperation of the hospitals of Philadelphia generally, not as integral parts of the university, but affiliated through their staffs and clinical and physical facilities, in this important movement for Philadelphia, under the educational control of the university. This general hospital cooperation is still in its beginnings. The cooperation of public and private philanthropies, in contributing toward the large funds without which the goal will be difficult or impossible to reach. In 1916, a merger between the University of Pennsylvania and the Medico-Chirurgical College of Philadelphia was effected. By the conditions of this merger the Medico-Chirurgical College became an integral part of the University of Pennsylvania as its Graduate School of Medicine and the heads of the clinical departments were constituted a nucleus for the faculty of the new school. By merger with the university in 1918 the Philadelphia Polyclinic and College for Graduates in Medicine, with its facilities for graduate medical instruction, was further added as the "Polyclinic Section" of the Graduate School of Medicine constituted as above. On this foundation, and with some valuable assistance from the Undergraduate School of Medicine and a few of the hospitals of Philadelphia, the work of the new school has been started.

SOUTH CAROLINA

Hospital Items.—The Darling Hospital Association has been incorporated at Darlington, with a capital stock of $100,000.——The Ferguson Private Sanatorium, Gaffney, was opened for the reception of surgical cases, October 1.

Fire at Camp Hospital.—The total loss caused by the fire which destroyed the officers' quarters at the United States Public Health Service Hospital, Camp Sevier, Greenville, is estimated at about $10,000. There were about 750 patients at the hospital at the time of the fire, forty officers, more than 100 women, nurses, aides and stenographers, and about 150 civilian employees.

Personal.—The charge of manslaughter brought by William M. Graydon, a lawyer, against Dr. Julius H. Taylor, Columbia, on account of the death of Graydon's son, following an operation, was dismissed in court, October 30.——Dr. Carl A. West, Columbia, has been appointed health officer for Lexington County, succeeding Dr. Boldridge E. Kneece. ——Dr. William D. Simpson, Abbeville, has resigned as a member of the state board of charities and corrections

Public Health Work.—Dr. G. E. Neal of the state health department, who established a clinic in Newberry, has gone to Anderson to establish a similar clinic there. In connection with this work a state advisory board will be established consisting of one member of the state board of health, one member of the federal board of health, one member to be recommended by the legislative delegation, and one by the city council, either mayor or chairman of the city board of health.——The United States Public Health Service is sending an investigator to look into the conditions in Newberry County with regard to trachoma. At St. Luke's School there are said to be five cases of trachoma, at Monticello School, five, and at Saluda, three cases.

WASHINGTON

Red Cross Clinic Opened.—The junior Red Cross Clinic was opened in the Horace Mann School, Spokane, during the week of November 14. Drs. Oliver T. Batcheller, Ronald A. Greene, Elmer E. Langley, Carroll L. Smith and Fred G. Sprowl were in charge of the eye, ear, nose and throat clinics, and Drs. Earl H. Current and Peter D. McCornack in charge of the medical clinic.

Personal.—Dr. William L. Hall, Spokane, recently returned after years of service as a medical missionary at Szechwan, China.——Dr. Thomas C. Barnhart, Spokane, has succeeded Dr. Albert E. Stuht as physician of Spokane County.—— Dr. William O. Wisner has been appointed assistant to Dr. Thomas C. Barnhart.——Dr. Frank S. Miller, Spokane, has been elected medical director of the Edgecliff Sanatorium.

WISCONSIN

Increase in Smallpox.—Up to November 12, 133 cases of smallpox have been reported in the state. The so-called normal for Wisconsin for November is 113, but if the high record is maintained, the high mark of 199 reported in 1914, will be exceeded. The state board of health gives its usual warning regarding vaccination.

New Officers.—At the annual meeting of the Wisconsin Anti-Tuberculosis Association, October 30, the following officers were elected: president, Dr. John W. Coon, Stevens Point; vice presidents, Dr. John R. Currens, Two Rivers, and Mrs. Ben Hooper, Oshkosh; secretary, Dr. J. Gurney Taylor, Milwaukee, and treasurer, John H. Kopmeier, Milwaukee.——At the annual meeting of the Milwaukee Physicians' Association, Dr. Arthur R. F. Grob was elected president; Dr. Edward M. Rice, vice president, and Dr. Hugo P. Siekert, secretary-treasurer.——At the annual meeting of Wisconsin Women's Medical Society, held in Milwaukee, October 1, Dr. Belle P. Nair, Winnebago, was elected president; Dr. Ada B. Chandler, Pardeeville, vice president, and Dr. Bertha V. Thomson, Oshkosh, secretary-treasurer.—— The Wisconsin branch of the Medical Veterans of the World War was organized, October 1, at Milwaukee. Dr. H. Muchister Brown, Milwaukee, was elected president; Dr. L. Rock Sleyster, Wauwatosa, secretary-treasurer, and Drs. John M. Dodd, Ashland, Gilbert E. Seaman, Milwaukee, and Jonas R. Longley, Fond du Lac, a committee to complete the organization.

CANADA

University Buildings Burn.—The main buildings of the University of Montreal, better known as Laval University, including the medical department, were destroyed by fire, November 22. The loss is estimated at $400,000, which is said to be covered by insurance.

Saskatchewan University News.—Several weeks ago the University of Saskatchewan was closed, pending an investigation into the affairs of that institution. Four university professors were dismissed, and now an investigation is being held with the Chancellor, Sir Frederick Haultain, in the chair. Dr. A. McKay, one of the dismissed professors, proposes that a controller be appointed, which would leave the president free to direct the more important policies of the institution.

Personal.—E. E. Braithwaite, M.B., Ph.D., late president of the Western University, London, Ont., has been appointed

national organizer of the Inter-Church Forward Movement. ——Dr. George R. Pirie, some time on the staff of the Hospital for Sick Children, Great Ormond Street, London, England, has returned to Toronto and commenced practice in diseases of infants and children.——Dr. Frank S. Park, Toronto, has gone to England to report on conditions regarding the emigration of children to Canada.

Smallpox Situation in Toronto.—Smallpox still continues to spread in Toronto, although the daily incidence of cases has not been so marked during the past week. The total has now risen to 508 cases and the number of persons quarantined something like 1,500. The antis held a mass meeting the other evening, but were only able to muster some 400 citizens. Altogether there have been more than 100,000 vaccinations. Col. J. W. S. McCullough, Toronto, provincial medical officer of health, has stated that of the 600,000 vaccinations in the Canadian army, there were recorded no untoward results. The Ontario law makes vaccination compulsory.

Hospital News.—During the war period there was a large falling off of promised subscriptions to the Toronto General Hospital, and now the trustees find themselves faced by a serious situation. There are three interests involved in that institution, namely, the city of Toronto, the University of Toronto, and private benefactors. In order to clear the hospital of an indebtedness of over $600,000, the trustees are asking that the city and university each put up $125,000, and then the trustees will engage to secure $500,000 from among themselves and by private subscription. It has been said that the hospital, having secured business management, has recently been running without any deficit on maintenance account.

GENERAL

Southern Gastro-Enterologists Elect Officers.—At the annual meeting of the Southern Gastro-Enterological Association, held in Asheville, N. C., November 10, Dr. Sidney K. Simon, New Orleans, was elected president; Dr. George M. Niles, Atlanta, Ga., vice president, and Dr. Marvin H. Smith, Jacksonville, Fla., was reelected secretary-treasurer.

New Officers for Railway Surgeons' Association.—At the annual meeting of the Surgeons' Association of the Western Division of the Southern Railway, held in Louisville, Ky., October 23, Dr. John F. Weathers, New Albany, Ind., was elected president, and Dr. Fred R. Gobbel, English, Ind., secretary-treasurer. The meeting for 1920 will be held in West Baden, Ind.

Meeting of Southern Medical Association.—The thirteenth annual meeting of the Southern Medical Association was held in Asheville, N. C., November 10 to 13, under the presidency of Dr. Lewellys F. Barker, Baltimore. Louisville, Ky., was selected as the place of meeting for 1920, and the following officers were elected: president, Dr. Edward H. Cary, Dallas, Texas, and vice presidents, Drs. Henry H. Briggs, Asheville, N. C., and Alfred L. Gray, Richmond, Va. The association approved the recommendation of the Southern States Association of Railway Surgeons that the general association take up with the government of the sixteen southern states, the matter of securing specific legislation to prevent grade-crossing accidents.

Sale of Ambulances.—The director of sales announces that the Surplus Property Division, Office of the Quartermaster-General of the Army, is offering for sale to specified welfare organizations and charitable institutions, 100 new G. M. C. ambulances, located at Jeffersonville, Ind. These ambulances are to be sold at government cost. This offer to charitable institutions will be effective until Dec. 20, 1919. The following organizations may take advantage of this offer: The Boy Scouts, the Girl Scouts, Camp Fire Scouts, Navy Scouts, benevolent societies doing war camp community service only, the Y. M. C. A., the Y. W. C .A., the Y. M. H. A., the Knights of Columbus, the Red Cross, Salvation Army, charitable institutions which shall have been vouched for by their local chambers of commerce, public hospitals which are not operated for private or corporate gain, R. O. T. C. schools, provided the schools use the equipment purchased for military purposes, the committee on special war activities of the National Catholic War Council, educational institutions which are not self-sustaining, but are dependent on voluntary subscription or government assistance, municipalities and states of the United States, and the hospitals, insane asylums and other institutions having need for ambulances which are operated by the cities and states.

FOREIGN

Typhus in Siberia.—Newspaper advices from Omsk say, since January 1, of this year, there have been 120,000 cases of typhus fever in Siberian troops, and that new cases are being reported at the rate of 1,000 daily.

Nobel Prizes to Germans.—The Nobel Prize for Physics for 1918 has been awarded to Prof. Max Planck of Berlin, and that for 1919, to Professor Stark of Greifswald, Germany.——The Nobel Prize for Chemistry for 1918 has been awarded to Prof. Fritz Harber of Berlin.

Death Losses of Armenian Physicians.—Since the opening of the world war, 67 Armenian physicians are said to have been killed, and 52 died from typhus; of Armenian pharmacists, 54 were killed, and 18 died from typhus; of Armenian dentists, 10 were killed, and 4 died from typhus, and 15 medical students were also said to have been killed.

Charges Against Turkish Physicians.—In a pamphlet entitled "Persecution Directed Against Armenian Doctors in Turkey During the World War," published by the union of Armenian physicians at Constantinople, it is charged that Turkish physicians not only plotted against the lives of the Armenian population, but directed a special campaign against their Armenian colleagues. These charges are said to be substantiated by the testimony of prominent Turkish physicians. Some of the criminals have fled from the country and others are now awaiting trial.

Red Cross Home Opened.—The American Red Cross Maternity Home Hospital, at Coatbridge, Scotland, established through a gift of $10,000 from the American Red Cross, was dedicated with impressive ceremonies under the auspices of the Town Councils of Coatbridge and Airdrie, recently. This is one of the five similar institutions founded in Great Britain. These institutions are devoted to helping the mothers and children of England and Scotland, where the infant death rate has been appalling, due largely to housing conditions which have made it impossible for mothers to give proper care to their children.

American Red Cross Activities.—During the first ten days of September, 269 men, sick and wounded soldiers, went through the American Red Cross at Irkutsk, Siberia, in order to be transported to local hospitals from the station. Besides this, three sanitary cars have been fully equipped by the American Red Cross, under the supervision of Dr. Charles S. Brady. From September 10 to October 1, 905 ambulatory and ninety stationary patients were treated at the dressing station. The total number of typhus patients was 804, and there were also 460 sick with different diseases, making a total of 1,264. Those in need were equipped by the American Red Cross with warm underwear, shoes and clothing.

LATIN AMERICA

Plague in Paraguay—In connection with the appearance of bubonic plague in Paraguay, the department of public health has just announced that several new cases have developed, including one in the capital itself, Asunción. The department announces that all sanitary measures have been taken to prevent the spread of the disease.

New Sanitary Code of São Paulo.—The state of São Paulo, Brazil, has just adopted a new sanitary code which is considered the best, and in fact the first of its kind ever adopted in Latin America. The code is the compilation of all previous sanitary legislation with the modifications that seemed necessary to bring it up to date. The man in charge of its preparation was Dr. Arturo Neiva, one of the most prominent physicians of Brazil.

Sanitary Commissions at El Salvador.—The consul-general of El Salvador announces that the government of that country has decided to appoint a number of scientific commissions for the purpose of conducting campaigns against the various diseases that affect that country. The first commission appointed is for the prevention of yellow fever and sufficient funds will be provided to conduct an antimosquito campaign throughout the country. The government has also decided to establish several quarantine stations provided with the necessary facilities for the disinfection of ships and the consul-general is now making inquiries in this country in regard to the necessary apparatus.

CORRECTIONS

Mercurochrome-220.—In the article by Young, Swartz and White in THE JOURNAL of November 15, the foot note at the end of the article states that "Mercurochrome-220" is being used in 25 per cent. solution in the urethra. Dr. White

informs us this should read "2.5 per cent." which is the strongest solution used.

Officers of American Public Health Association.—The announcement of the new officers of the American Public Health Association, which was published in THE JOURNAL, November 8, contained certain inaccuracies. The corrected list of officers is as follows: president, Dr. Watson S. Rankin, Raleigh, N. C.; vice presidents, Dr. Alexander J. Douglas, Winnipeg, Man.; Samuel L. Jepson, Charleston, W. Va. and William H. Robin, New Orleans; secretary, A. W. Hedrick, C.P.H., Boston, and treasurer, Dr. Guilford H. Sumner, Des Moines, Iowa.

Government Services

Personnel of the Medical Corps

For the week ending November 21, the Medical Corps of the Army contained 2,318 officers from a maximum of 30,591 on duty Nov. 15, 1918. The medical reserve corps contained 3,858, an increase of sixty-nine from the previous week.

Contract Surgeons Entitled to Discharge Button

The general staff of the army has decided that all contract surgeons serving during the recent war are entitled to the discharge button, and also to the Victory Medal. They may be obtained from any recruiting station or from the Depot Quartermaster, Washington, D. C.

MEDICAL OFFICERS, U. S. NAVY, RELIEVED FROM ACTIVE DUTY

CONNECTICUT

New London—Allyn, G. S.

MICHIGAN

Crystal Falls—Larson, B. T.

TEXAS

Dallas—Miller, L. T.

WASHINGTON

Pullman—Beistel, M. J.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY

NOTE.—In the following list, L. signifies lieutenant; C., captain; M., major; L. C, lieutenant-colonel, and Col., colonel.

ALABAMA

Athens—Hughes, J. F. (L.)
Bayou Labatre—Kilpatrick, G. C. (C.)
Birmingham—Dedman, J. E. (M.)
Michlin, J. (L.)
Sorrell, L. E. (L.)
Coatopa — Moore, E. A. (C.)
Fayette—Long, W. W. (C.)
Furman—Speir, R. C. (M.)
Goodwater—Ledbetter, L. H. (C.)
Huntsville—Winn, J. H. (L.)
Mobile—Farrior, L. B. (C.)
Montgomery—Thigpen, W. G. (C.)
Perdido Beach—Goldthwaite, H. (C.)
Tuscaloosa—Burks, B. A. (C.)

ARIZONA

Safford—McWhirt, W. E. (L.)

ARKANSAS

Little Rock—Judkins, W. D. (C.)
Moore, R. B. (L.)

CALIFORNIA

Alameda—Stowe, O. P. (L.)
Bakersfield—Rogers, H. (M.)
Burbank—Cline, H. N. (M.)
Elcentro—Brooks, C. S. (L.)
Eureka—Petch, T. R. (C.)
Pine, J. W. (L.)
Los Angeles—Cartmell, T. M. (C.)
Flagg, D. P. (C.)
Hall, J. S. (L.)
Koons, H. H. (C.)
Sleeper, K. R. (C.)
Terry, M. C., Jr. (C.)
Norwalk—Sisson, C. E. (M.)
Oakland—McCleave, T. C. (M.)
Weaver, D. D. (L.)
Randsburg—Denton, W. L. (L.)
Sacramento—Diepenbrock, A. B. (C.)
San Francisco—Clay, H. E. (M.)
Cookinham, F. H. (L.)
Dolman, F. (C.)
Eloesser, L. (M.)
Etcheverry, M. H. (C.)
San Francisco—Girard, F. R. (M.)
Gouguet, L. J. (M.)
McCoy, H. H. (L.)
Stucky, H. W. (L. C.)
San Jose—Scully, L. C. (L.)
Santa Monica—Reed, E. N. (C.)
Soldiers Home—Karras, R. W. (L.)
Milligan, S. A. (L.)
Stockton—Smythe, H. (C.)
Talmage—Smith, D. R. (C.)

COLORADO

Denver—Campbell, A. J. (M.)
Golden—Howard, J. F. (C.)
Oak Creek—Kelly, J. A. (L.)
Salida—Shaffer, T. L. A. (C.)
Woodmen—Downing, E. D. (L.)

CONNECTICUT

Ansonia—Armstrong, F. F. (C.)
Bridgeport — Roller, R. D., Jr. (M.)
Forestville—Donohue, B. F. (C.)
New Haven—Maurer, L. L. (C.)
Scholl, R. F. (L.)
Thompson—Paine, R. C. (L.)

DISTRICT OF COLUMBIA

Washington—Barker, H. W. (C.)
Cahill, J. A. (C.)
Darnall, M. H. (M.)
Johnson, L. B. T. (C.)
Riggin, I. C. (L.)
Williams, V. B. (L.)

FLORIDA

De Land—MacDiarmid, J. (C.)
Jacksonville—MacFeeters, R. B. (C.)
Orlando—Beardall, H. M. (M.)

GEORGIA

Atlanta—Blackburn, J. D. (L.)
Byrd, J. L. (C.)
DeLoach, A. G. (L.)
Fanning, O. O. (C.)
McDougall, J. C. (C.)
West, C. M. (L.)
Wilder, C. D. (L.)
Byron—Peavy, H. J. (L.)
Carrollton—Garst, J. C. H. (L.)
Douglas—Burns, G. (C.)
Fairburn—Harvey, C. H. (C.)
Jackson—Gunter, R. A. (C.)
Lawrenceville — Williams, A. D. (C.)
Nicholls—Pafford, J. W. (L.)
Pavo—Mansfield, E. E. (M.)
Waycross—Johnson, R. L. (L.)

IDAHO

Emmett—Clark, B. O. (L. C.)

ILLINOIS

Alton—Pratt, E. C. (L.)
Arthur—Monroe, C. W. (L.)
Carmargo—Zobrist, B. F. (L.)
Chestnut—Mikkelsen, G. S. (L.)
Chicago—Brackett, L. G. (C.)
Campbell, D. D. (L.)
Cartwright, E. L. (L.)
Christofferson, E. A. (C.)
Claypool, B. W. (L.)
Daggett, L. H. (C.)
De Beck, C. M. (L.)
Doktorsky, M. (L.)
Forrester, C. R. G. (M.)
Fowler, E. B. (M.)
Fox, J. S. (C.)
Gieratowski, C. P. (L.)
Goggin, J. G. (L.)
Hanchine, B. D. (C.)
Henry, W. J. (L.)
Hoglund, E. J. (C.)
Hoyt, W. W. (C.)
Hughes, J. W. (L.)
Hyslop, O. C. (L.)
Jacobson, G. H. (L.)
Jerdee, I. (L.)
Johnson, R. P. (L.)
McEachern, D. B. (M.)
Mize, H. E. (C.)
O'Hearn, M. (L.)
O'Malley, T. J. (M.)
Schoenfeld, C. J. (C.)
Scholes, W. J. (L.)
Stackable, J. B. (C.)
Stephenson, R. B. (C.)
Stites, R. O. (C.)
Summers, A. W. (L.)
Test, F. C. (M.)
Thomas, H. B. (C.)
Wyatt, B. I. (C.)
Clayton—Brown, E. O. (C.)
Creal Springs—Copeland, P. R. (L.)
Hempler, H. G. (L.)
Decatur—Cannon, V. E. (C.)
East St. Louis — Sullivan, J. A. (L.)
Eldorado—Williams, S. W. (C.)
Elgin—Dueringer, H. W. (C.)
Pollock, J. K. (C.)
Ritchey, R. M. (M.)
Griggsville—Iterman, G. E. (C.)
Hobinson—Allen, J. L. (L.)
Jonesboro—White, W. G. (C.)
Kansas—Roberts, J. B. (L.)
Mount Carmel—Craig, C. C. (C.)
Mount Vernon—Ward, T. P. (M.)
Naperville—Conn, W. S. (C.)
New Holland — Kendall, W. E. (M.)
Oak Park—Cole, L. (L.)
Cooke, A. G. (C.)
McGuire, W. A. (L.)
Old Ripley—Powell, C. H. (M.)
Pana—Alderson, A. L. (M.)
Paris—Young, D. W. (M.)
Peoria—Uppendahl, W. J. (C.)
Springfield—James, H. L. (C.)
Stillman Valley — Beebe, A. H. (C.)
Tampico—Wilson, R. H. (M.)
Woodhull—Drennan, G. D. (C.)

INDIANA

Bluffton—Metts, F. A. (L.)
Bourbon—Marshall, G. L. (C.)
Evansville—Bretz, R. B. (C.)
Lynch, P. V. (L.)
Frankfort—Chittick, A. G. (M.)
Gary—Metcalf, J. E. (M.)
Haysville—Eifert, E. E. (L.)
Indianapolis—Nimal, H. W. (C.)
Reisler, S. (C.)
Marion—Ross, J. C. (L.)
Michigan City—Gilmore, R. A. (L.)
Leeds, A. L. (L.)
Morristown—Cox, H. B. (C.)
Richmond—Peirce, R. J. (C.)
Terre Haute—Tabor, F. A. (C.)
Upland—Stout, E. T. (C.)
West Baden—Miller, H. L. (C.)
Westville—Pinkerton, F. J. (M.)

IOWA

Cedar Rapids—Langworthy, S. M. (C.)
Cherokee—Miller, F. B. E. (L.)
Clinton—Fairchild, D. S. (Col.)
Des Moines—Harned, C. W. (M.)
Losh, C. W. (C.)
Des Moines—Wright, H. J. (C.)
Iowa City—Gatewood, W. E. (C.)
Leon—Stookey, P. F. (L.)
Mount Pleasant—Chesnutt, T. H. (L.)
Newton—Moore, C. E. (C.)
Olin—White, S. (C.)
Ottumwa—Hull, J. A. (C.)
Peterson—Sproule, E. W. (L.)
Rembrandt—Hubbard, W. M. (C.)
Sioux City—Secoy, F. L. (L.)

KANSAS

Aiton—Isenberg, B. A. (C.)
Athol—Keller, W. C. (L.)
Galatia—Adkins, E. M. (L.)
Hutchinson—Scales, H. L. (C.)
Inman—Aschmann, T. H. (C.)
Larned—Lapat, W. (L.)
Manhatten—Sheldon, F. B. (C.)
Ottawa—Mahffy, G. C. (C.)
Pittsburgh—Smith, C. H. (L.)
Rosedale—Swinney, R. W. (L.)
Salina—Brittain, O. R. (L.)
Wichita—Egloff, G. E. (C.)
Matassarin, L. (M.)

KENTUCKY

Corbin—Cox, W. M. (C.)
Covington—Miller, F. E. (L.)
Dunmor—Mahon, J. H. (C.)
Lawrenceburg—Kavanaugh, C. N. (M.)
Louisville—Edleson, L. R. (C.)
Ernstberger, L. J. (C.)
Hancock, J. (C.)
Holmes, A. E. (L.)
Malone, J. T. (L.)
Morris, D. (C.)
Parsons, A. L. (M.)
Wilson, D. S. (L. C.)
Mackville—Hume, O. F. (L.)
Maysville—Grant, J. (L.)
Morganfield—Donan, D. C., Jr. (C.)
Newport—Echert, A. D. (L.)
Springfield—Hill, G. W. (C.)
Sturgis—Niedhemer, C. S. (L.)

LOUISIANA

Baton Rouge—McCan, J. H. (L.)
Homer—Snow, W. W. (L.)
Hope Villa—Dixon, W. L. (L.)
Independence—Alessi, N. V. (C.)
Newellton—Evans, R. P. (L.)
Oil City—Miller, C. S., Jr. (L.)
Selma—Adams, I. N. (C.)
Sulphur—Fisher, R. H. (C.)

MAINE

Andover—Leslie, F. E. (M.)
Bradford — Richardson, H. K. (M.)
Bridgton—Frisbee, E. B. (L.)
Brooks—Cook, N. R. (C.)
Gardiner—Farrell, C. G. (L.)
Readfield—Milliken, J. S. (C.)
South Berwick—Cook, C. E., Jr. (M.)

MARYLAND

Baltimore—Anderson, W. T. (L.)
Austin, H. E. (L.)
Bagley, C., Jr. (M.)
Baird, J. H. (L.)
Coleman, W. J. (L. C.)
Cone, S. M. (M.)
Elder, F. C. (L.)
Fleckenstein, H. K. (C.)
Gill, H. C. F. (C.)
Gillis, A. C. (L. C.)
Hall, R. W. (M.)
Lutz, G. E. (L.)
Maxcy, K. F. (C.)
Mickletwaite, G. R. (L.)
Ogden, F. N. (L.)
Smith, E. P. (L.)
Steindler, L. F. (C.)
Taylor, R. T. (L. C.)
Thomas, C. R. (L.)
Walker, G. (Col.)
Catonsville—Runkel, J. G. (L.)
Sykesville—Buettner, H. F. J. (L.)

MASSACHUSETTS

Arlington—Hunt, R. B. (L.)
Beverly—Swan, L. C. (L.)
Boston—Buckman, T. E. (L.)
Clark, H. A. (C.)
Corr, F. X. (M.)
Cotting, W. F. (L.)
Cunningham, R. A. (L.)
Ghoreych, A. A. W. (C.)
Hegarty, J. G. (L.)
Hooker, S. R. (L.)
Jennings, J. G. (C.)
Kibby, S. V. (L.)
MacIver, G. A. (M.)
Mahoney, J. L. (M.)
Nisbet, J. H. (L.)
Palfrey, F. W. (M.)
Roberts, W. S. (C.)
Rudman, B. W. (L.)
Simmons, M. E. (L.)
Cambridge—Burnett, L. R. (L.)
Herlihy, D. J. (L.)

Chelsea—Gilbert, M. A. (L.)
Gloucester—Quimby, H. L. (L.)
Haverhill—McFee, W. D. (M.)
Lynn—Davis, H. L. (L.)
Rafferty, T. B. (L.)
Underhill, S. G. (M.)
New Bedford—Walker, R. I. (L.)
Northampton—Collins, W. J. (L.)
Saconville—Dudley, O. A. (M.)
Sharon—Gay, W. M. (M.)
Springfield—Boyd, J. V. (M.)
Tewksbury—Tuttle, H. K. (C.)
Watertown—King, A. E. (L.)
Weymouth—Pease, L. W. (L.)
Williamstown—McWilliams, N. B. (L.)
Winchester—Brown, A. L. (C.)
Winthrop—Metcalf, B. H. (L. C.)
Worcester—Berry, G. (M.)
Rice, G. A. (C.)

MICHIGAN

Ann Arbor—Berge, C. A. (C.)
Lorer, M. C. (L.)
Mandeville, C. (L.)
Bay City—Gibson, L. J. (L.)
Calumet—Olmsted, H. B. (L. C.)
Central Lake—Vis, E. W. (C.)
Detroit—Campau, G. H. (L.)
Dreak, J. J. (L.)
Gordon, J. W. (L.)
Johnson, J. H. (L.)
McCall, H. (C.)
O'Hora, B. A. (L.)
Piper, C. C. (L.)
Sage, E. O. (C.)
Thomas, G. A. (C.)
Grand Rapids—Lieffers, H. (L.)
Manlove, W. R. Jr. (L.)
Grayling—Whitaker, J. A. (C.)
Harbor Springs—Miller, R. R. (L.)
Lansing — Bartholomew, H. S. (M.)
Marquette—Markham, H. B. (M.)
New Troy—Hayes, D. J. (M.)
Orion—Hathaway, C. L. (C.)
Tawas City—Crane, C. V. (M.)

MINNESOTA

Audubon—Pederson, O. J. (C.)
Fairmont—Luedtke, G. H. (C.)
Minneapolis—Avery, J. F. (M.)
Bickford, H. G. (M.)
Epperson, D. S. (L.)
Hodge, S. V. (L.)
Moats, V. H. (L.)
Northington, J. M. (M.)
Odegaard, B. (C.)
Schmidt, K. H. (C.)
Slater, H. M. (C.)
New Prague—Kucera, W. J. (L.)
Rochester—Crumley, W. G. (M.)
St. Paul—Arason, J. M. (L.)
Carson, W. J. (L.)
Holmes, C. K. (L.)
Lutz, E. H. (L.)
Warner, H. H. (L.)

MISSISSIPPI

Biloxi—Johnston, H. (C.)
Coffeeville—Reaves, R. L. (L.)
Columbus—McClain, J. W. (L.)
Fondren—Greaves, P. R. (C.)
Gloster—Smith, F. C. (C.)
Goodlman—Williams, C. C. (C.)
Indianola—Bernard, B. C. (L.)
Meridian—Grady, W. R. (L. C.)
Wright, C. G. (C.)
Rosedale—Coppedge, J. (L.)
Shubuta—Reynolds, J. M. (L.)

MISSOURI

Carthage—Barnett, A. J. (L.)
De Soto—Fallet, C. E.
Higbee—Winn, J. W. (L.)
Kansas City—Frazier, C. E. (C.)
Irland, R. D. (C.)
Krueger, G. W. (C.)
Orr, T. G. (M.)
Walthall, D. O. (L.)
Leadwood—Huffman, J. W. (L.)
Marston—Timberman, J. H. (C.)
Montgomery City—Menefee, B. F. (M.)
Perry—Menefee, C. D. (C.)
Sedalia—Beckmeyer, W. A. (C.)
Shelbyville—Singleton, D. E. (M.)
Slater—Deal, F. E. (L.)
Springfield—Summers, W. R. (C.)
St. Louis—Bradley, W. C. (C.)
Cleveland, A. H. (C.)
Fry, W. F. (L. C.)
Haynes, S. E. (C.)
Heithaus, A. S. (C.)
Hoberecht, C. A. (C.)
Jacobi, F. E. (C.)
Kirby, A. C. (L.)
Kring, E. (L.)
Wittwer, H. J. (L.)

NEBRASKA

Lincoln—Hompes, J. J. (C.)
Omaha—Harris, T. T. (L.)
Kuegle, F. H. (C.)
Peru—Shellhorn, B. L. (C.)
Petersburg—Mogan, W. E. (L.)

NEW HAMPSHIRE

Claremont—Jackson, R. C. (L.)
Dover—Lawlor, J. C. (L.)
Grasmere—Swett, E. B. (C.)
Manchester—Powers, H. F. (L.)
New London—Lamson, C. A. (C.)
North Stratford—Thompson, J. C. (C.)

NEW JERSEY

Bayonne—Weiss, M. J. (C.)
Belleville—Burbank, H. E. (L.)
Caldwell—Lyon, E. C. (C.)
Camden—Burke, W. J. (L.)
Jones, W. J. (L.)
Cream Ridge—McKittrick, O. F. (C.)
Irvington—Farden, J. L. (C.)
Morristown—Reed, R. R. (C.)
Newark—Nittell, M. C. (C.)
Sobin, (M.)
Wood, E. L. (C.)
Orange—Sands, O. L. (M.)
Passaic—Murnane, C. F. (L.)
Penns Grove—Cook, G. L. (C.)
Pitman—Woolley, H. C. (L. C.)
Stratford—Kaiglin, C. B. (C.)
Trenton—Connelly, M. A. (L.)
Upper Montclair—Kirchbaum, C. E. (C.)
West Hoboken—Poole, L. E. (M.)

NEW MEXICO

Ft. Bayard—Loewy, I. D. (M.)
Gallup—Cantrell, W. B. (C.)
Lordsburg—Crocker, M. M. (C.)
Santa Rosa—Sanford, J. H. (C.)

NEW YORK

Albany—Carlisle, C. L. (C.)
Corning, E. (L.)
De Russo, D. (L.)
Allegany—Quinlan, E. D. (C.)
Auburn—Boudreau, E. N. (C.)
Copeland, J. W. (C.)
Mildren, C.
Beacon—Bontecou, H. S. (L.)
Blackwell's Island—Kelly, B. R. (L.)
Briarcliff Manor—Nall, E. H. (M.)
Brooklyn—Blauvelt, H. (L.)
Bullard, H. M. (L.)
Burke, J. H. (L.)
Cook, C. (L.)
Duryea, C. F. (C.)
Fettes, D. S. (C.)
Greenberg, I. E. (C.)
Grossman, H. (L.)
Hertel, A. J. L. (C.)
Lipton, H. (L.)
Marcus, L. (L.)
McCarty, C. W. (C.)
Moore, W. W. (C.)
O'Connor, C. G. (C.)
Sandler, M. (L.)
Smith, H. M. (C.)
Smith, J. W. (L.)
Wolfe, R. (L.)
Buffalo—Fisk, G. C. (C.)
Patterson, H. A. (L.)
Terrasse, F. (L.)
Thompson, D. O. (C.)
Champlain—Hackett, J. M. (C.)
Chestertown—Swan, H. B. (L.)
Cobleskill—Shafer, M. F. (C.)
Fonda—Abbott, E. J. (M.)
Ithaca—Allen, J. F. W. (C.)
Lackawanna—Scott, H. A. (C.)
Millbrook—McCabe, W. V. (C.)
New York—Anderson, G. C. (L.)
Bender, M. B. (C.)
Bernhard, J. M. (L.)
Boland, E. (C.)
Braddock, W. H. (C.)
Caples, B. H. (C.)
Cohen, H. A. (L.)
Cowan, H. (C.)
Crandall, J. K. (C.)
Creeden, E. L. (L.)
Dunn, C. W. (L.)
Eggers, C. H. (C.)
Farr, R. S. (L.)
Field, W. H. (L.)
Flood, E. F. (L.)
Frick, J. (L.)
Friedman, S. S. (L.)
Globus, J. H. (L.)
Gregory, M. S. (L. C.)
Haas, J. C.
Henry, C. R. (L.)
Hersberg, H. (C.)
Hoff, H. C. (L.)
Holcomb, S. W. (L.)
King, J. E. J. (M.)
Knapp, R. F. (C.)
Langmann, A. G. (L.)
Lewis, F. W. Jr. (L.)
Loby, T. J. (L.)
Mann, L. T. (L.)
McClellan, F. C. (L.)
McTague, W. C. (L.)
Nocilla, B. (C.)
Olcott, G. P., Jr. (M.)
New York—Pemsley, A. B. (L.)
Pickhardt, O. C. (C.)
Reinberger, J. R. (L.)
Rhodes, G. K. (L.)
Riley, H. A. (M.)
Rogers, L. B. (M.)
Ross, H. L. (C.)
Roven, M. I. (L.)
Samuels, B. (M.)
Sanmann, L. F. (L.)
Schlesinger, H. W. (L.)
Shamaskin, A. (C.)
Shea, A. F. (L.)
Silbert, S. (L.)
Smith, F. (M.)
Sutliff, E. H. (L.)
Turnure, P. R. (M.)
Weiss, A. A. (C.)
Weitzner, S. F. (C.)
Wilson, H. H. (M.)
Wilzin, I. M. (C.)
Ogdensburg—Hausman, S. W. (C.)
Oneida—Mills, G. F. (C.)
Plattsburg—Rogers, T. A. (C.)
Poolville—Ostman, C. D. (C.)
Rochester—Colgan, F. J. (L.)
Holtz, M. (L.)
Schoonover, F. S., Jr. (L.)
Weinmann, J. D. (M.)
Utica—Leary, J. J. (L.)
Virgil—Evans, J. H. (M.)
Waverly—McNamara, J. J. (L.)
West Haverstraw—Bergman, C. S. (L.)
West Leyden—Perry, C. A. (L.)

NORTH CAROLINA

Asheville—Lynch, G. B. (L.)
Williams, J. R. (C.)
Battleboro—Deans, A. W. (L.)
Charlotte—Ross, J. K. (C.)
Townsend, C. L. (C.)
Fairfield—Mann, T. A. (C.)
Old Fort—McIntosh, D. M. (C.)
Oxford—Bullock, J. H. (L.)
Roxboro—Montague, S. S. (L.)
Sanford—Scott, C. L. (M.)

NORTH DAKOTA

Mercer—Deming, R. (C.)
Solen—Rice, F. F. (M.)

OHIO

Ada—Wiseley, A. N. (C.)
Akron—McAdoo, S. F. (C.)
Ashville—Postle, H. C.
Bowling Green—Love, A. A. (L.)
Canal Fulton—Shafer, A. M. (L.)
Cincinnati—Buff, J. H. (C.)
Kautz, W. S. (L.)
Lamb, B. H. (C.)
Cleveland—Neitz, E. P. (C.)
Columbus—Russell, L. H. (C.)
Schaeffer, G. C. (L. C.)
Coshocton—Keenan, J. (C.)
Dayton—Baber, A. A. (L.)
Kline, W. L. (C.)
Werner, E. R. (L.)
Delphos—Tillotson, J. R. (C.)
East Liberty—Davis, W. C. (C.)
East Liverpool—Bailey, C. H. (C.)
Mansfield—Remy, E., Jr. (L.)
Mount Vernon—Pumphrey, J. M. (L.)
Mount Victory—Lynch, E. E. (C.)
New Richmond—Roberts, D. M. (M.)
Norwalk—Coupland, J. D. (C.)
Painesville—Davis, J. R. (L.)
Springfield—Link, J. A. (M.)
Tiffin—Wenner, H. L., Jr. (M.)
Toledo—Lawless, T. K., Jr. (L.)
Trimble—Danford, V. C. (C.)
Wintersville—Donehoo, W. S. P. (C.)
Xenia—Finley, R. K. (L.)
Shields, L. (C.)

OKLAHOMA

Enid—Weever, G. S. (C.)
Gracemont—Smith, R. E. (L.)
Howe—Hunt, A. G. (L.)
Kendrick—Hancock, J. M. (C.)
Kingston—Welborn, O. E. (C.)
Muskogee—Nolle, J. G. (C.)
Schenck, H. C. (L.)
Oklahoma City—Boland, F. J. (L. C.)
Sapulpa—McAllester, J. S. (C.)
Tulsa—Green, R. E. (L.)

OREGON

Enterprise—Thompson, J. H. (M.)
Portland—Dalton, E. C. (M.)
Pearce, C. M. (C.)
Union—Lamb, E. D. (L.)

PENNSYLVANIA

Beaver Falls—Townsend, L. S. (C.)
Canonsburg—Bell, D. M. (C.)
Connellsville—Eddie, E. B. (L. C.)
Cranesville — Rutherford, J. F. (L.)
Dickson City—Cantor, A. S. (L.)
Dunmore—Skeoch, J. R. (C.)
East Berlin—Miller, E. A. (C.)
Erie—Russell, J. A. M. (L.)
Falls Creek—McCormick, A. F. (C.)
Geneva—Clouse, A. W. (C.)
Greenock—Gruetzner, E. T. (C.)
Harrisburg—Robbins, J. M. (L.)
Hazleton—Kochzynski, J. C. (L.)
Hellam—Horn, J. W., Jr. (L.)
Lebanon—Beattie, J. (M.)
McKees Rocks—Cotton, R. W. (C.)
Mont Alto—Gorman, H. A. (C.)
Narberth—McConnell, W. C. (L.)
New Castle—Haines, B. F. (C.)
New Kensington—Goodsell, J. W. (C.)
Norristown—Johnson, E. E. (C.)
Shearer, H. B. (C.)
Philadelphia—Abbott, F. C. (C.)
Behney, C. A. (L.)
Birdsall, C. W. (C.)
Boykin, J. M. (C.)
Cariss, W. L. (C.)
Criswell, J. B. (C.)
Dennin, J. W. (L.)
Devlin, A. J. (L.)
Diodati, V. M. (C.)
Dyson, F. M. (L.)
Erney, E. (C.)
Hess, G. W. A. (L.)
Hirsch, O. C. (C.)
Kieffer, G. C. (L. C.)
Klutz, A.
LaFerty, J. M. (C.)
McKeage, W. (C.)
Moorhead, S. W. (C.)
Penrose, T. W. (M.)
Sidhick, D. M. (L.)
Siter, E. H. (L. C.)
Stedem, D. E. (L.)
Stearn, C. L. (C.)
White, H. K. (L. C.)
Pittsburgh—Blevins, J. D. (C.)
Gross, J. E. (L.)
Hayes, C. C. (C.)
Ley, C. A. (L.)
McClenahan, H. E. (M.)
Moore, T. F. (L.)
Myers, H. S. (L.)
Plymouth—James, J. E. (L.)
Reading—Alexander, R. M. (M.)
Richfield—Deckard, P. E. (C.)
Sharon—Campbell, W. E. (L.)
Sharpsville—Frye, B. A. (L.)
Warren—Miller, W. C. (L.)
Washington—McCullough, C. J. (C.)
Stewart, R. A. (C.)
West Chester—Kerwin, C. M. (L.)
Rothrock, H. A. (C.)
Wilkes-Barre—Espy, C. W. (L.)
Wilkinsburg—Dorsey, D. L. (L.)
Woodward—Ard, G. F. (M.)

RHODE ISLAND

Pawtucket—Davidson, W. B. (L.)
Providence—Doten, C. R. (C.)
McDonald, W. Jr. (M.)
Robinson, R. C. (C.)

SOUTH CAROLINA

Columbia—Poore, J. E. (L. C.)
Marion—Truloch, G. M. (C.)
Newberry—Stuler, J. B. (C.)
Outland—Bruortan, O. L. (L.)
Rockton—Hamilton, R. G. (M.)

SOUTH DAKOTA

Gettysburg—Mertens, J. L. (C.)
Sioux City—Cottam, C. G. (M.)

TENNESSEE

Chattanooga—Dickey, W. W. (L.)
Jacobs, B. L. (L.)
Emmett—Hawkins, E. C. (L.)
Gates—Conyers, G. C. (L.)
Harrison—Long, C. C. (L.)
Knoxville—Snoddy, C. A. (L. C.)
Laconia—Ballard, W. H. (M.)
Memphis—Mitchell, E. C. (Col.)
Nashville—Connell, M. L. (L.)
Simpson, J. W. (L.)
Rivees—Trentzsch, P. J. (L.)
South Pittsburg—Wampler, G. M. (L.)
Wheat—Cross, J. B. (C.)

TEXAS

Brenham—Miller, R. F. (C.)
Carrollton—Burnett, T. R. (C.)
Cedar Creek—Campbell, W. E. (L.)
Coryell—Wheeler, J. S. (C.)
Crockett—Lipscomb, W. N. (L.)
Dallas—Hilliard, H. H. (C.)
Nevitt, F. H. (L.)

Dallas—Shannon, H. (L.)
Stephenson, W. O. (C.)
Denison—Lee, W. A. (C.)
El Paso—Jamieson, W. R. (M.)
Fort Worth—Potts, J. (M.)
Gause—Gray, D. F. (C.)
Hico—Currie, J. D. (C.)
Honey Grove—Nesbitt, J. H. (C.)
Houston—McKee, J. W., Jr. (L.)
Michael, J. C. (C.)
Moth, M. V. (C.)
Jonesboro—Hamilton, J. H. (L.)
Lamesa—Brice, J. H. (C.)
Mart—Russell, W. R. (C.)
May—Robason, P. D. (C.)
Newton—Swinney, B. A., Jr. (L.)
Paris—Nicholson, L. (C.)
Pottsville—Rea, M. O. (L.)
Rosebud—White, B. O. (C.)
San Antonio—Applewhite, S. C. (L.)
Dixon, C. D. (C.)
Kahn, I. S. (M.)
Seabrook—Ayres, D. R. (C.)
Temple—Parker, W. L. (L.)
Waco—Toomin, E. (L.)
Weatherford—Jones, A. L. (C.)
Wichita Falls—Underwood, G. M. (L.)

UTAH

Magna—McBride, G. E. (C.)
Salt Lake City—Baldwin, S. C. (L. C.)
Christopherson, W. (M.)
Swanberg, H. (C.)
Whiterocks—MacNeil, B. C. (L.)

VERMONT

Burlington—Avery, R. E. (L.)
Finlayson, A. D. (C.)
North Bennington—Tobin, E. A. (L. C.)
Rutland—Delehanty, N. J. (C.)

VIRGINIA

Chincoteague Island—Easter, C. M. (C.)
Edgehill—Baker, R. M. (L.)
Fairfax—Quick, T. C. (L. C.)
Fisherville—White, H. F. (M.)
Glen Allen—McLeod, A. (C.)
Newport News—Whitehead, R. (L.)
Norfolk—Hancock, F. H. (C.)
Snyder, H. D., Jr. (C.)
Richmond—Edwards, C. M. (C.)
McGowan, W. A. (L.)
Mercer, C. W. (C.)
Smithfield—Riddick, S. A. (M.)
The Plains—Shackelford, R. B. (L. C.)
Vienna—Grayson, S. M. (C.)

WASHINGTON

Seattle—Bickford, E. L. (C.)
Burson, H. C. (C.)
Spokane—Preucel, J. E. (C.)
Sumner—Taylor, C. L. (C.)
Walla Walla—Pratt, W. A. (C.)

WEST VIRGINIA

Buckhannon—Trippett, K. H. (L.)
Charleston—Barksdale, G. H. (M.)
Gassaway—Vess, F. K. (L.)
Hundred—Kearns, F. M. (C.)
Nuss—Lake, E. T. (C.)
Richwood—Leech, W. F. (M.)
Welch—Dillard, M. D. (C.)

WISCONSIN

Amery—Perry, G. (M.)
Beaver Dam—Voorus, L. O. (L.)
Burlington—Meyer, H. (C.)
Cudahy—Fitzgerald, R. E. (L.)
Green Bay—Senn, G. (C.)
La Crosse—Gray, R. H. (M.)
Lake Geneva — Willhite, O. C. (M.)
Madison—Kay, H. M. (C.)
Milwaukee—Fitz, E. O. L. (L.)
Howard, T. J. (L.)
Ivy, R. H. (L. C.)
McDill, J. R. (M.)
Owens, W. H. (L.)
Sheehan, J. F. (L.)
Weingart, W. F. (L.)
Wheatley, C. I. (L.)
Monroe—Moore, L. A. (M.)
Ogdensburg—Johnson, J. C. (C.)
Pewaukee—Barnes, H. T. (C.)
Plymouth—Kayser, R. (M.)
Portage—Bentley, J. E. (L.)
Sheboygan Falls—Pfeifer, E. C. (L.)
Stevens Point — Cowan, W. F. (M.)

Foreign Correspondence

PARIS

Nov. 6, 1919.

Meeting of Orthopedists

Owing to the important place that orthopedics has come to occupy during recent years, orthopedic surgeons were beginning to feel themselves somewhat restricted at the meetings of the Société française de chirurgie, at which only one session devoted to orthopedic surgery was accorded them. Following the example, therefore, of the urologists, they conceived the plan of founding a separate society, to hold its annual meeting concurrently with the congress of surgeons. The subject was first brought up in 1904, and, owing to the stimulus that the war has given to orthopedic surgery and to prosthesis, the plan has at last been realized. In 1918 the Société française d'orthopédie was founded, and it already counts among its membership a large number of French orthopedists and a considerable representation of foreign associates. October 10, this new society held its first meeting, under the chairmanship of Dr. Kirmisson, surgeon of the Hôpitaux de Paris and professor of clinical pediatric surgery on the Faculty of Medicine.

Amputations in Relation to Prosthesis

In his communication on the subject of amputations in relation to prosthesis, Dr. Nové-Josserand, surgeon of the Hôpitaux de Lyon and agrégé professor of the Faculty of Medicine of Lyons, emphasized the fact, for which the experience of the war furnished abundant evidence, that it is not sufficient, when we perform an amputation, to concern ourselves solely with the shape of the stump, but that the character of the service to be rendered and the kind of work to be done by the subject must also be considered. As for the upper limbs, the prosthetic appliances render little service in the liberal professions, for very few persons wear their appliances. In the case of workmen, however, especially agricultural workers, the movements that they perform and the tools that they use being simple, appliances are found to give good results if the stumps are left long and motile. It is desirable that the stumps should be as long as possible in order to furnish the necessary leverage. In the arm a stump 15 cm. in length below the acromion is necessary. At the time of amputation such matters should be carefully considered, and, if need be, it is better to leave less of covering than to cut the bone too short. If the amputation must absolutely be done higher up, the question is in order whether disarticulation would not be more suitable. In the lower third of the arm the supracondylar amputation is excellent, as it furnishes good bearing for the appliance and frequently does away with the necessity of suspension from the shoulder. Disarticulation of the elbow-joint is bad, as the stump is too long and it is more difficult to provide the proper covering. Furthermore, the stump does not furnish a good bearing for prosthetic apparatus.

The separate movements of the forearm—flexion, pronation and supination—must be considered. In order that the appliance may have proper flexion, a stump 9 cm. in length from the joint-line is required, or, if the elbow is considered as being flexed at an angle of 90 degrees, 4 cm. below the insertion of the tendon of the biceps will suffice. A stump shorter than this does not give proper flexion, but it may nevertheless be useful as the support of prosthetic apparatus. Pronation is an important matter for consideration, as it is the source of the prehensile movements to be performed with the artificial appliance. Theoretically, if amputation below the insertion of the pronator teres has been made, pronation is preserved, but, from a practical standpoint, amputation must be performed below the junction of the middle and lower third in order to assure effective pronation. Amputation in the lower third of the forearm is much to be preferred to disarticulation at the wrist-joint, for this is often associated with radio-ulnar arthritis, which inhibits the movements of pronation, and then again, it leaves too long a stump.

In case of the lower limbs, the main consideration is to amputate at a site that will give good support. The bearing may be directly on the end of the stump, or it may be indirect. The American prosthetic apparatus, which can be readily adapted to any stump, gives good results with indirect support. However, direct support has some advantages; namely, no waste of strength and the feeling of ground support, which is more easily obtained if the leverage is secured nearer the ground. The Germans attach great importance to this feeling of ground support.

Amputations in the middle third of the thigh give excellent results; in fact, this is the most favorable site. It gives a leverage quite sufficient for the operation of an artificial limb. If the stump is too long, a pendulum-like movement is set up, which causes ulceration through chafing; the thigh socket is also unduly large, and it is more difficult to adjust the artificial knee-joint. With the exception of a few rare cases, all used the indirect support. In the upper third of the thigh, from 6 to 8 cm. below the trochanter should be preserved, for as long a fragment of bone as possible is left in order to be able to attach properly the prosthetic apparatus. In the lower third of the thigh it is rarely possible to secure direct support, as the stump would thus become too long.

In the lower leg we must relinquish the amputation that has heretofore been regarded as the amputation of choice, which was adopted because the end of the stump was expected to bear all the weight of the artificial leg, for it is no longer expected to do so. Amputation in the middle third of the leg is the most favorable site. In order to furnish leverage to swing the artificial leg, a stump 10 cm. in length from the joint-line is required; or, if the knee, flexed at a right angle, is taken as a basis of measurement, 6 cm. below the insertion of the tendons of the semitendinosus and the semimembranosus will suffice.

In the case of the foot, the total amputation by Syme's procedure is unanimously regarded as excellent, for it gives a firm stump with good covering, and causes no after-pain if the malleoli have been properly removed. The articular end of the tibia is preserved, as this permits the use of an appliance without a socket.

In the discussion of the partial amputations of the foot there was a divergence of opinion. In regard to the amputation of anterior portions of the foot there is common agreement: removal of all the toes en masse (the Lisfranc operation), with or without the cuneiform bones, is good surgery if the flap is large enough to allow bringing the scar on the back of the foot. In the posterior portions of the foot the results are less satisfactory. The feeling seemed to be prevalent that often the necessary sacrifices would not be agreed to. Broca remarked that the value of various opera-

tions could not be judged by the results secured during the war. The exigencies of the case governed our actions, frequently. It was often necessary for physicians to impersonate surgeons. The relative skill of the operator must be considered, as well as the character of the operation. Kirmisson remarked that we should not be too ready to form conclusions from the results of the war, for here operations were often performed on feet that had been suppurating for a long time, with neuritis and deep scars sometimes present. It would be inconsistent to compare, from the standpoint of prosthetic appliances, the results in such cases with those secured under normal conditions.

Surgical Congress

At the twenty-eighth congress of French surgeons, a partial report of which was given last week, two of the subjects discussed were: the surgical treatment of cancer of the tongue, and paranephric tumors.

SURGICAL TREATMENT OF CANCER OF THE TONGUE

In his communication, Dr. Pierre Sebileau, professor of clinical otorhinolaryngology at the Faculty of Medicine of Paris, emphasized particularly the necessity of the extirpation of cancer as soon as it appeared. Unfortunately, it rarely happens that surgeons have an opportunity of seeing a cancer of the tongue in its initial stage. This is partly owing to the patient's indifference, since the cancer develops from an old leukoplakia that has been for a long period benign, and is partly ascribable to the fact that the physician frequently fails to recognize the syphilitic origin of the leukoplakia. Sebileau holds that the only proper treatment consists in surgical extirpation. Electrocoagulation and the use of physical remedial agents in general have failed utterly. Radium of itself is incapable of causing a cancer to disappear, and can only be regarded as exerting a supplementary action. As regards the limitations of operability, Sebileau regards the following conditions as contraindications: (1) extension of the cancerous growth to the glosso-epiglottic sulcus and to the epiglottis; (2) invasion of the faucial pillars and of the tonsils; (3) profound infiltration of the mandible; (4) involvement of the two lateral halves of the tongue at the base, and (5) glandular hyperemia of the diffuse, inflammatory type. Before answering the question whether cancer of the tongue is curable or not, we would call attention to the fact that in speaking of cancer it is always hazardous to talk of a cure. It is estimated that 40 per cent. of cancer patients operated on early survive beyond the three-year period. In old cancers and in those operated on by parietal or mandibular route, the percentage of recoveries is much smaller. However, even under these conditions some do recover, and though the number be small it is the duty of the surgeon to persevere in this line of surgery, notwithstanding the fact that it is, as Sebileau admits, full of disappointments.

Dr. Vallas, agrégé professor at the Faculty of Medicine of Lyons, considers the surgical as the only method that has accomplished definite cures. In the opinion of Vallas, it is impossible to say as yet whether radiotherapy should be classed among the palliative or among the curative methods.

Dr. Aboulker of Algiers expressed his opinion to the effect that general anesthesia is the most serious factor in connection with operations for lingual cancer. According to his view, local anesthesia can and must suffice in all cases. In a series of eighteen pharyngectomies for cancer performed under chloroform, the mortality was deplorably high, namely, 55 per cent., whereas in another series of ten pharyngectomies under local anesthesia, no deaths resulted. Aboulker uses the Reclus solution, which consists of procain 1:200, with a drop of epinephrin added to each cubic centimeter. From 30 to 40 c.c. are sufficient for the longest operations. It is well to color this solution with methylene blue in order to indicate to the eye the extent of the anesthetized area. If properly used, this method of local anesthesia permits operations in the cases of numerous cachectic, cardiac and diabetic patients who would not be able to withstand chloroform narcosis.

Dr. E. Forgue, professor of clinical surgery at the Faculty of Medicine of Montpellier, called the attention of the congress to a recent method, recommended by Delmas of Montpellier, which may prove to have merit: the method of general rachianesthesia, in which it is necessary to use highly purified cocain, which is injected bruskly in small doses into the spinal column, being first mixed with cerebrospinal fluid (a considerable quantity of which, from 30 to 50 c.c., has previously been withdrawn), not stopping until the patient complains of a severe headache.

PARANEPHRIC TUMORS

Paranephric tumors are retroperitoneal tumors that present intimate anatomic relations with the kidney, which remains otherwise intact, and that appear to have developed either at the expense of the capsule or of the perirenal fat. The communication of Dr. Paul Lecène, surgeon of the Hôpitaux de Paris and agrégé professor at the Faculty of Medicine, is based on 113 authentic observations, ninety-six of which were operative cases and seventeen were necropsy reports. These tumors are found indiscriminately on the right and on the left side, and at every age, but predominately in the fifth decade. They are also relatively frequent in young subjects, and they appear to affect more particularly the feminine sex (70 per cent. is the proportion). Their functional symptomatology is almost negative. Their evolution is slow, insidious and almost always entirely painless. There are few or no signs of compression, except in the advanced stages, during which there is a decline in general health, and at times short febrile attacks appear. Only the physical examination reveals the true state of affairs. The tumor is most frequently paramesial and appears as a multilobar mass—flabby, fibrous or pseudofluctuant, but never seeming to slip out from under the palpating finger, as is the case with cysts. Although generally only slightly movable, it always presents lumbar contact and even *ballottement* if its volume is not too great. On percussion the tumor sounds flat, with or without a resonant note in the anterior portion.

From a diagnostic standpoint it is important to determine the anatomic seat of the tumor and the functional activity of the kidneys. As regards the anatomic seat, careful percussion, dermographic tracings, and, especially, the location of the tympanitic note of the overlying colon (for which it will be well to have recourse to insufflation) will permit one to locate, at first approximately and finally more precisely, the retroperitoneal seat of the neoplasm. As for the testing of the functional activity of both kidneys, this is very important, not only from a diagnostic standpoint, but also as regards surgical interference, for it goes without saying that one will frequently be compelled to sacrifice the kidney. In the absence of operative intervention the evolution of the tumor proves fatal sooner or later. The tumor grows steadily larger, and death supervenes from cachexia or from concomitant complications (uremia, pneumonia, phlebitis, etc.)

From the standpoint of operative technic, transperitoneal laparotomy is preferable to the iliolumbar or the extraperitoneal route, the latter being too obscure or too narrow to permit the enucleation of large tumors. Once the tumor has been enucleated, preferably by progressive delobulation, it is well to establish lumbar drainage. This procedure is much to be preferred to marsupialization, which necessitates delayed closure of the wound and causes a weakening of the walls.

The operation is a serious one (the mortality running about 40 per cent.), especially if the tumor is large and the patient is much weakened. As for the end-results, they are difficult to evaluate, as only one patient has survived long enough to permit a definite judgment (six years without recurrence).

BUENOS AIRES

Oct. 11, 1919.

Bubonic Plague

The appearance of several foci of plague in some places of the provinces of Santa Fé, Santiago del Estero, and Tucumán y Córdoba, compelled the national department of hygiene to carry out a campaign of prevention and treatment. As the authorities realize the existence of sporadic foci in different places of the country, the chief source of which are the rodents of the port of Buenos Aires, they have decided to solve definitely this matter by ordering the compulsory eradication of rats throughout the country and the careful deratization of all ships coming from abroad.

Appointment of Professors

The unexpected and troublesome interference that some groups of students are trying to exert in the appointment of professors reached its climax lately. A committee appointed by the students' association called on the president of the republic to ask him to appoint the candidate favored by them. The president stated that while the law permitted him to select any of the three persons whose names appeared on the list submitted by the faculty, he nevertheless wished to respect the autonomy of the universities, and therefore would select the first candidate on the list.

University Discipline

The present university ordinance which provides that the board of directors of the faculties be elected by an assembly, composed in equal numbers of professors, assistant professors and students, has worked very poorly. These elections are now practically controlled by the students, who vote only one ticket, while the professors scatter their votes. On the other hand, there are always some professors who ask the students to vote for them or to have their names placed in the students' tickets. In order to obtain this they are compelled to make such concessions that the school discipline and the examinations suffer from it. In addition, this system creates antagonism between students and professors; and when the former do not win an election, as happens quite often, they incite disturbances, as those that took place last year in the school of medicine and in the law school lately. What makes matters worse is that the students do not know the history and qualifications of the candidates, and therefore they allow themselves to be manipulated and show very little discrimination, guiding themselves largely by the leniency shown by the professors in the examinations. Unless this system is changed, university discipline in this country is going to be seriously affected. Probably the only immediate solution is to permit the students to elect a candidate every year and have the others appointed by the professors.

LONDON

Nov. 5, 1919.

Prevention of Tuberculosis

After an interval of several years, due to the war, the National Association for the Prevention of Tuberculosis has resumed its annual conference. A number of distinguished foreign physicians, including Dr. Linsly Williams, Prof. William C. White, Dr. David Lyman and Dr. C. J. Hatfield, of the United States, were present. Dr. Addison, minister of health, delivered an address. He said that the war had added, from the ranks of those who had served with the forces, to the number of tuberculosis patients. In consequence of the necessary suspension of many of our activities, the absence of many skilled men from the tuberculosis service in the ranks of the army medical corps, and the entrance of a large number of women into industrial service, there had been an increase in tuberculosis in some directions, notably among women. It was one of the functions of the ministry of health to try to secure that its efforts to deal with these great problems were not disjointed and fragmentary. As he had so often said, we had suffered in this country a great deal from failing to have a considered body of policy, and this applied with singular aptness to tuberculosis. We were likely to deal with these matters piecemeal—sometimes necessarily so. Unless a big program of rehousing and the clearance of slums should be carried out, combative efforts would be largely in vain. That was why the first action of the ministry of health was to promote the housing act. The millions of money now being spent in our manifold health services were largely wasted, because we had never had the foresight and the courage to tackle the capital expenditure necessary to remove the causes of disease. Education and enlightenment he placed only second in importance to housing. As long as we had millions of people who never opened their bedroom windows, the efforts of health workers would be largely stultified. The information for the public which he had in mind need not be of a highly professional kind, couched in technical phraseology. It needed to be sound knowledge and good common sense. Housing and the spread of information naturally went hand-in-hand with research The war had shown that a good deal of the expenditure of sanatoriums might be fruitless unless the arrangements were supplemented by others. In many cases it was of no use to send a man to a sanatorium if, on emerging, he returned to an insanitary home. Again, the monotony and dreariness of long life in a sanatorium was a human factor of great importance. Many men who had been in sanatoriums ought never to return to their former occupations. Arrangements for industrial training, linked to the sanatorium system, were necessary. The ministry of health, in conjunction with the ministry of pensions, was arranging for the provision of 1,000 training places in connection with sanatoriums. They will have to be linked up with village settlement centers. Any attempt to have a sort of tuberculosis colony was doomed to failure, for sufferers from tuberculosis wanted to live among their fellow citizens and not to be marked out. He would not be a party to branding the tuberculous person as a leper. Facilities for early diagnosis and consultation for early cases was one of the most important works laid before them.

The Annual Meeting of the British Medical Association

The next annual meeting of the British Medical Association will be held in the University of Cambridge at the end of June under the presidency of Sir Clifford Allbutt. It was intended to hold the 1915 meeting at Cambridge under his presidency, but the war intervened and he has remained president of the association ever since. During the war no scientific meeting took place until that of last year, which was held in London much earlier than usual, in order to enable the medical officers of the dominions and the United States who were still in Europe to take part. The coming meeting will be held a month earlier than usual, in order to coincide with the time when the university buildings will be vacant. The number of sectional meetings will be considerably reduced. There will be four principal sections, namely, medicine, surgery, physiology and pharmacology, and neurology and psychiatry, each of which will meet on three days. But the other sections, namely, pathology and bacteriology, obstetrics and gynecology, tropical medicine, naval and military medicine, radiology and electrotherapeutics, venereal disease, medical sociology, and medical education, will meet only on one day. This reduction of the sectional meetings seems to have been due to the success of the last meeting when, owing to the influence of the war, most of the special sections were omitted and greater prominence given to demonstrations. It is intended to make the Cambridge meeting as objective as possible by numerous afternoon demonstrations for which the splendid laboratories of the university are well suited.

Industrial Hygiene

The new ministry of health is about to devote great attention to industrial hygiene, which the experience of the war has shown to be an important part of preventive medicine. In this country there are 130,000 workshops and 150,000 factories, in which 12,000,000 people spend a third of their lives. Sir George Newman, chief medical officer of the ministry, proposes to deal with the following points: (1) the careful selection of workers on engagement, and periodic supervision (including observation as to output, lost time, sickness, physiologic requirements, etc.; (2) the hours of employment—shifts, breaks, spells, pauses, holidays, Sunday work, night work and overtime; (3) the factory or workshop environment—design, structure, sanitation, cleanliness, heating, temperature, ventilation, lighting, sanitary accommodation, washing facilities, cloakrooms, seats, restroom and surgeries; (4) the personal well-being of the worker—the industrial employment of women, incentive, food supply, drinking water, canteens, protective clothing, lifting weights, welfare conditions, rest and recreation, and (5) the effect of occupation on health—fatigue (due to excess in duration of labor, specialization, repetition, strain or speed) sickness, injuries, accidents and industrial disease (poisoning by lead, phosphorus, arsenic, mercury, anthrax, dust and fumes).

The Treatment of Crippled Children

Sir Robert Jones has made an important proposal for the treatment of crippled children. He finds that rickets and surgical tuberculosis account for 40 per cent. of crippled children. These diseases are preventable, but of the remaining 60 per cent. of the causes of crippling, too little is known to expect prevention. Under present conditions some of the children die, and others become cripples, yet many are fully curable; but the country has made no effort to face the problem. He proposes to graft the work of caring for these children on the orthopedic hospitals now conducted by the ministry of pensions for disabled soldiers. The machinery exists; it is only necessary to enlarge its scope. The country would be divided into districts similar to those established by the ministry of pensions. In each district there would be an open air country orthopedic hospital and a system of outpatient clinics Specially trained nurses and physicians will be necessary; but these are already in existence owing to the work for soldiers. It is proposed that the ministry of health should take action in the matter and make its plans in advance so that the staffs of the hospitals may not be dispersed as the pension work diminishes. Sir Robert Jones is confident that if such an organization is set up, many thousands of children otherwise doomed to the life of a cripple will be redeemed to health, and others, though not fully cured, enabled to become self-supporting citizens and given far greater possibilities of activity and happiness.

Marriages

GOUVERNEUR VINCENT EMERSON, Major, M. C., U. S. Army, to Miss Marie V. McLaughlin of Jersey City, N. J., at the country home of the bride, Milford, Pa., November 2.

LOCKART DAVIS ARBUCKLE, Lieut., M. C., U S. Navy, to Miss Gladys Whitehead, at Olangapo, Samboles, P. I., August 25.

HARRIET MARION JERVAIS, Roxbury, Boston, to Lieut.-Com. William Higgins, R. N., at Belgrade, Serbia, October 4.

HARRY ROLAND KENNER, Washington, to Miss Margaret Clare Warfield, at Woodbine, Md., November 3.

JOHN ALBERT BERCHARD LOWRY, Crewe, Va., to Miss Mabel Johnson of Harrisburg, Pa., September 3.

THOMAS M. MCMILLAN, Mobile, Ala., to Miss Julia T. Talcott of New York City, November 12.

Deaths

Charles E. Cantrell ● Greenville, Texas; well known surgeon of the Southwest; a member of the House of Delegates of the American Medical Association from 1906 to 1909, and a member of the Board of Trustees from 1909 to 1913, inclusive; died, November 20. Dr. Cantrell was born in Lead Hill, Ark., March 15, 1859; he was a practitioner of Arkansas from 1885 to 1893, and was graduated from the medical department of the University of Arkansas, Little Rock in 1893 He located in Wolfe City, Texas, in 1893, and six years later moved to Greenville, where he and his brother founded Cantrell's Hospital. Dr. Cantrell was at one time president of the State Medical Association of Texas, and was for several years local surgeon of the St. Louis and Southwestern Railroad. On the entry of the United States into the world war, Dr. Cantrell was commissioned major, M. C., U. S. Army, and was on duty at the General Hospital, Corpus Christi, Texas, and was honorably discharged, Dec. 3, 1918. On July 31, 1919, he was appointed inspector instructor, United States Public Health Service, and placed in charge of the Fourteenth District, comprising the states of Texas, Oklahoma, Arkansas and Louisiana, with station at Corpus Christi. While engaged in this duty, he was exposed to the tropical storm, which devastated Corpus Christi in September last, and his fatal illness followed this exposure.

Allan McLane Hamilton, Great Barrington, Mass.; College of Physicians and Surgeons in the City of New York, 1870; aged 71; a widely known alienist and specialist on nervous and mental diseases; died suddenly, November 23. Dr. Hamilton, a grandson of Alexander Hamilton, was born in Brooklyn. After his graduation in medicine, he settled in New York City, where he resided until his retirement, about two years ago. At his graduation he received the first faculty prize on his theses on "Galvanopuncture," and was also awarded the Harsen prize medal. He was professor of mental diseases in Cornell University Medical College from 1900 to 1903; statistical secretary of the New York Academy of Medicine in 1874; secretary of the New York Society of Neurology in 1875; and at one time editor of the *American Psychological Journal.* He was lecturer on nervous diseases at the Long Island College Hospital, Brooklyn; visiting surgeon to the Epileptic and Paralytic Hospital on Blackwell's Island, and later physician in charge of the New York State Hospital for Diseases of the Nervous System. Dr. Hamilton wrote many books on mental diseases, the most recent of which was his "Recollections of an Alienist," which appeared in 1916. He was also the author of "Intimate Life of Alexander Hamilton," which was published in 1911.

Floyd Milford Crandall ● New York City; University of the City of New York, 1884; aged 61; for many years a member of the House of Delegates of the American Medical Association, and since 1913 secretary of the Medical Society of the State of New York; a member of the American Pediatric Society; president of the New York County Medical Society in 1906; and of the Society of Alumni of Bellevue Hospital; lecturer on diseases of children from 1889 to 1893, and adjunct professor of diseases of children since that time in the New York Polyclinic; secretary of the section of diseases of children of the Pan-American Medical Congress in 1893; surgeon of the New York Skin and Cancer Hospital from 1890 to 1898; consulting physician to the Infant's and Children's hospitals; state medical examiner since 1907; assistant editor of the *New York State Journal of Medicine;* died, November 19.

Preston Heath Bailhache ● **Surg., U. S. P. H. S.,** Orange, N. J.; Pennsylvania Medical College, Philadelphia, 1857; aged 85; surgeon, Fourteenth Illinois Volunteer Cavalry, during the Civil War; and later associate editor of the Quincy (Ill.) *Whig;* who was appointed an assistant surgeon in the United States Marine Hospital Service, Aug. 20, 1873, and was retired, Nov. 1, 1909; died, October 28. During his forty-six years of connection with the United States Public Health Service, Dr. Bailhache assisted in revising the regulations of the service; was a member of the National Board of Health from 1879 to 1885; was on the board for selecting national quarantine stations in 1880.

William Grosvenor Bissell ● Buffalo; Buffalo University, 1892; aged 49; in charge of the bureau of bacteriology in the department of health of Buffalo since 1894; president of the State Board of Medical Examiners; president of the New York Sate Sanitary Officers' Association; for twenty years major and surgeon of the 74th Infantry, N. G., N. Y.; a member of the American Public Health Association and Association of Military Surgeons of the United States; who had conferred on him the honorary degree of Doctor of Public Health by the University of the City of New York in 1919; died, November 14.

John Hey Williams ● Asheville, N. C.; College of Physicians and Surgeons, Keokuk, Iowa, 1863; aged 77; once vice president of the Medical Society of the State of North Carolina, and president of the Buncombe County Medical Society; formerly surgeon-general of the National Guard of North Carolina; a member of the staff of the Clarence Barker Memorial Hospital; one of the most prominent surgeons of North Carolina; died, November 14, from cerebral hemorrhage.

Nathaniel Gildersleeve ● Philadelphia; University of Pennsylvania, Philadelphia, 1900; aged 48; a member of the American Association of Pathology and Bacteriology; professor of microbiology and bacteriopathology in the school of dentistry of his alma mater; Thomas A. Scott Fellow in hygiene; pathologist of the Bar Harbor (Me.) Hospital, where he conducted a laboratory in the summer; died in the University Hospital, Philadelphia, November 11.

Richard Coe Newton ● Montclair, N. J.; College of Physicians and Surgeons in the City of New York, 1877; aged 68; a specialist in tuberculosis; surgeon in the United States Army from 1880 to 1889; formerly a member of the New Jersey State Board of Health; editor of the *Journal of the Medical Society of New Jersey;* a member of the staff of Mountainside Hospital, Montclair; died in that institution, November 13, from cerebral hemorrhage.

David Hayes Strickland ● Erie, Pa.; University of Pennsylvania, Philadelphia, 1863; aged 80; a life member and once vice president of the Medical Society of the State of Pennsylvania; local surgeon of the Pittsburgh and Lake Erie system; consulting surgeon to St. Vincent's Hospital; a veteran of the Civil War; during which he served as surgeon of the 111th Pennsylvania Volunteer Infantry; died, November 10, from pneumonia.

Enoch Hunt Jones, Murfreesboro, Tenn.; University of Louisville, Ky., 1892; aged 67; a member and for two terms president of the Tennessee State Medical Association; secretary of the Rutherford County Medical Society in 1916 and 1918; for many years health officer of Murfreesboro; died in St. Thomas' Hospital, Nashville, Tenn, November 3.

George Duffield ● Detroit; Detroit Medical College, 1882; aged 60; professor emeritus of clinical medicine in the Detroit College of Medicine and Surgery; attending physician to Harper Hospital; consulting physician to the Woman's Hospital and Infant's Home, Detroit; died in his office, November 12, from heart disease.

Lena Grace Spring, Hollywood, Los Angeles; Herring Medical College, Chicago, 1904; aged 49; once professor of physiology in the College of Medicine and Surgery, Chicago; at one time physician for the Mexican Central Railroad; died in an ambulance while being taken from her home to a hospital, November 2.

Adolph Hoerr ● Mamaroneck, N. Y.; University of the City of New York, 1896; aged 50; at one time county physician of Westchester County, justice of the peace, and

● Indicates "Fellow" of the American Medical Association.

a member of the staff of the United Hospital, Port Chester; died, November 12, from arteriosclerosis.

Arthur Winter, Cleveland; Cleveland College of Physicians and Surgeons, 1896; aged 52; died in Mt. Sinai Hospital, Cleveland, November 8, from the effects of wounds of the lung inflicted with an ice pick by the enraged husband of a patient a week before.

James Robert Lancaster, Granbury, Texas; University of Louisville, Ky., 1876; aged 71; a member of the State Medical Association of Texas; a practitioner since 1866; assistant surgeon in the Confederate service during the Civil War; died, November 3.

Matthias Higgins, Newport, Ky.; American Eclectic Medical College, Cincinnati, 1889; Cincinnati College of Medicine and Surgery, 1892; aged 58; coroner of Campbell County for three terms; died in his office, November 4, from heart disease.

Lemuel Stephen Coplan ● Wellington, Kan.; University of Illinois, Chicago, 1897; aged 51; captain, M. R. C., U. S. Army, and honorably discharged, Dec. 12, 1918; died in Chicago, November 17, from atrophic cirrhosis of the liver.

George Edwards Richards, Boston; Harvard University Medical School, 1883; aged 73; a member of the Massachusetts Medical Society; at one time a member of the staff of the Boston Dispensary; died, September 8, from myocarditis.

James B. Williams, Chicago; University of Pennsylvania, Philadelphia, 1880; Hahnemann Medical College, Chicago, 1890; aged 62; a member of the Illinois State Medical Society; died, November 18, from arteriosclerosis.

Paul White Abell, Charlton, Mass.; College of Physicians and Surgeons in the City of New York, 1893; aged 52; died in the Memorial Hospital, Charlton, October 28, four days after an operation for the removal of gallstones.

Dennis Church, Churchville, N. Y.; College of Physicians and Surgeons in the City of New York, 1872; aged 69; from 1880 to 1892 in the chemical manufacturing business; died, November 16, from heart disease.

Paul Faver, Atlanta, Ga.; Medical College of Virginia, Richmond, 1868; Bellevue Hospital Medical College, 1872; a Confederate veteran; once a member of the Georgia state senate; died, November 12.

Alonzo L. Hurd ● Somers, Conn.; University of Vermont, Burlington, 1891; aged 61; once president of the Tolland County Medical Association; died, November 9, from pernicious anemia.

Edward S. Zieber, Philadelphia; Jefferson Medical College, 1880; aged 60; teacher of mathematics in the high schools of Philadelphia for thirty-five years; died, October 30, from bronchiectasis.

Edwin I. Thorne, Salt Lake City; Medical College of Ohio, Cincinnati, 1869; aged 72; a member of the Utah State Medical Association; died, November 3, from chronic rheumatism.

Edmund Bailey Frye, Boston; Dartmouth Medical School, Hanover, N. H., 1880; aged 63; a member of the Massachusetts Medical Society; died, October 23, from angina pectoris.

William T. Herndon, Ashboro, N C.; Louisville (Ky.) Medical College, 1874; aged 78; died at the home of his daughter in Winston-Salem, N. C., November 1.

Aaron M. Sherman, Pasadena, Calif.; Western Reserve University, Cleveland, 1851; aged 93; for many years a practitioner of Kent, Ohio; died, about November 2.

William H. Landis, Buchanan, Mich.; Starling Medical College, Columbus, Ohio, 1885; aged 61; died in his office, October 7, from cerebral hemorrhage.

John Jefferson Kackley, Chetopa, Kan.; Washington University, St. Louis, 1871; aged 92; died at the home of his daughter in Chetopa, November 4.

Samuel DeLancy Hicks, Richmond, Va.; University of Berlin, Germany, 1884; aged 56; died at Bethel, Conn., September 18, from heart disease.

Thomas DeHaven Blodgett ● Tulare, Calif.; Cooper Medical College, San Francisco, 1894; aged 51; died, November 10, from septicemia.

Joseph Rollin Sook, Newark, Ohio; Cleveland University of Medicine and Surgery, 1887; aged 53; died, November 4, from nephritis.

William Bradley Towler, Los Angeles; Victoria University, Toronto, Ont., 1869; aged 76; died, August 12, from heart disease.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE FRAUD ON THE PUBLIC AND ON THE PROFESSION

MICAJAH'S WAFERS AND MICAJAH'S SUPPOSITORIES

Report of the Council on Pharmacy and Chemistry

"Micajah's Medicated Wafers" and "Micajah's Suppositories," sold by Micajah & Co., Warren, Pa., are declared inadmissible to "New and Nonofficial Remedies" because (1) their composition is essentially secret (Rule 1); (2) the name of neither of these mixtures is indicative of its composition (Rule 8); (3) of exaggerated and unwarranted therapeutic claims (Rule 6), and (4) the therapeutic advice which accompanies the trade packages constitutes an indirect advertisement to the public (Rule 4).

W. A. PUCKNER, Secretary.

Micajah's Medicated Wafers (formerly called "Micajah's Medicated Uterine Wafers") were analyzed in the A. M. A. Chemical Laboratory in 1910. They were found to consist essentially of dried ("burnt") alum, boric acid and borax, in approximately the following proportions:

Alum, dried	59.86 per cent.
Borax, dried	15.62 per cent.
Boric acid	5.67 per cent.
Water of hydration	18.85 per cent.

There are a number of drugs that are more or less effective in the treatment of local lesions of mucous membranes and the skin. They are classed as astringents. Among these are included alum, borax and boric acid. Every physician has used them. To say that a wafer consists of alum, borax and boric acid inspires but little awe. But there is something much more mysterious and impressive in declaring that a wafer "consists of an astringent and antiseptic base, in which are incorporated certain medicaments which both locally and after absorption, contribute to the astringent, antiphlogistic, depletive, soothing and healing action of the product." This gives the impression that some powerful and almost incomprehensible factors are at work. Yet, after all is said and done, the substances contained in Micajah's Medicated Wafers are just the homely old alum, boric acid and borax.

In addition to "Micajah's Medicated Wafers," Micajah & Co. also put out "Micajah's Suppositories for Hemorrhoids." These have been examined in the A. M. A. Chemical Laboratory and, like the "Medicated Wafers" have been found to contain alum, boric acid and borax—and these substances practically alone—incorporated in cocoa butter. The company claims that "to these have been added Ammonii Ichthyosulphonate, Balsam of Peru, Ext. Belladonae." The A. M. A. chemists report, however, that if extract of belladonna is present at all it is in amounts too small to be detected by the method commonly employed in the chemical examination of alkaloidal drugs. The chemists report further that while ammonium ichthyosulphonate and balsam of Peru both have a decided odor and are dark in color, the suppositories have but little color and the odor of the cocoa butter that forms their base is not covered by these drugs; obviously, therefore, if ammonium ichthyosulphonate and balsam of Peru are present at all it is in amounts utterly insufficient to exert any therapeutic effect.

It would be hard to find better examples of michievous proprietary medicines than these two products of the Micajah Company. "Twins of Efficiency," they are called in an advertising pamphlet. The composition is not stated. A physician using the "twins" does so absolutely in the dark. To him they are secret preparations. He is encouraged to use them in a great variety of conditions in which other drugs are much more useful. Inevitably, physicians using

them will be likely to overlook, or pass over, new growths, specific infections and diseases that require radical remedial measures.

In addition to misleading and exaggerated claims, there is a reference to a report from the usual "well-known and reliable bacteriological laboratory." The excepts published from this report of an unnamed laboratory are sufficiently vague to incriminate no one.

From time to time it is worth while to emphasize facts regarding proprietary medicines that while obvious are sometimes forgotten. For this reason attention is directed to Micajah's Uterine Wafers and Micajah's Suppositories.

Correspondence

LIPOVACCINES AS A PROPHYLACTIC IN INFLUENZA

To the Editor:—In THE JOURNAL, Oct. 25, 1919, appeared a letter from Surgeon-General Blue, U. S. Public Health Service, relative to statements on the above subject made by me. To this letter I reply because Dr. Blue makes certain incorrect statements.

In a letter dated October 17, Dr. Blue sends me his letter to THE JOURNAL accompanied by a letter in which he states that my article contains "a number of misstatements," whereas, in the article for publication which he headed "Correction of Erroneous Statements in the Chicago *Daily Tribune*," he describes my article "as so misleading." He brands two of my statements as misstatements.[1] A third statement made by me he pronounces correct in his letter to me. The several other statements are not touched on. Even though he had made his point, the headlines and his several characterizations would not have been justified, and he himself might be accused of attempting to mislead, especially in view of his own statement that the principal object of his letter was to justify the action of the Public Health Service in its action on lipovaccines.

First, let me briefly discuss the statement relative to the use of lipovaccines by the army. Frankly, I did not know of the War Department March circular on lipovaccines until I received Dr. Blue's letter. However, I now have a copy of the circular before me, and I find that the facts are not in full accord with Dr. Blue's statements. I refer to "S. G. O. 44.2, Surgeon-General's Office, Mar. 12, 1919," signed C. R. Darnall. Dr. Blue says: "The fact is that the army discontinued distributing lipovaccine some months ago, and withdrew that which was outstanding." The circular reads: "Lipovaccines were adopted as a war measure on account of their obvious advantages and have served their purpose. The technic of manufacture, however, needs further improvement, and the duration of their protective power as compared with that of saline vaccines needs further investigation. Saline vaccines, therefore, will be used as a routine, and lipovaccines will be reserved for emergencies."

The second charge of error is flimsy. My article related to measures of control of influenza. Among other methods I referred to the use of vaccines. Six paragraphs were given to discussion of vaccination. A part of the discussion of vaccines was devoted to lipovaccines. In giving the evidence for vaccination I cited the two army experiments, inadvertently referring to the work at both Upton and Wheeler as having been done with lipovaccines. As is well known, the vaccination at Wheeler was with lipovaccines; that at Upton with saline vaccines.

Dr. Blue writes:

> The chief objection raised is the coupling of the refusal of the U. S. Public Health Service to license lipovaccines with the statements which imply that for this reason people are being deprived of a valuable prophylactic agent.

He justifies the action of the service by the statement:

> The lack at present of satisfactory potency and sterility tests for lipovaccines has led the bureau to decline to license such vaccines for interstate sale, and the evidence at our disposal indicates that a saline vaccine containing pneumococci is at least as effective as an oil suspension of the organisms.

I say the Public Health Service has made it impossible for most of the people to get influenza-pneumonia vaccines and (human nature being as it is) practically speaking, to prevent influenza-pneumonia vaccination. Dr. Blue says that at least the first part of the statement is correct, the Public Health Service having gone to the limit of its powers to make lipovaccines unavailable. I said that people who can get lipovaccines are lucky. Dr. Blue denies this and justifies the action of the service on two grounds—lack of confidence in the sterility of influenza-pneumonia vaccines and lack of faith in their efficacy. Here, as Dr. Blue says, is the real point of controversy, the chief reason, for his open letter.

First, as to sterility: I assume that what Dr. Blue meant to say is that it is difficult to sterilize lipovaccines. Lipovaccines made according to the older method were in fairly wide use in the army last winter. I have not seen any reports of any great harm due to lack of sterility. However, a simpler method of manufacture has been in use for more than six months. It was described by Rosenow in June last, and the description appeared in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION shortly thereafter. Using this method, it is just as easy to make sterile lipovaccine as to make sterile saline vaccine, and far easier than to make sterile smallpox vaccine—a product licensed by the U. S. Public Health Service.

Second, as to potency: I am not certain what potency tests Dr. Blue refers to. He may refer to lack of laboratory demonstration by the McCoy test or to lack of clinical proof of potency. This objection to influenza-pneumonia vaccines was raised frequently in October, 1918. Without going deeply into it, it seems to me that so far as the pneumococcus is concerned the evidence is very good that it can be used, in the laboratory, to produce specific antibodies and, clinically, to produce immunity as to streptococcus. The evidence is fairly good that it produces specific antibodies in laboratory animals. There is lack of agreement as to the degree of effectiveness in antibody formation with lipovaccines as compared with saline vaccines.

As I understand it, the position taken by Dr. Blue is that if the service were to permit the manufacture of lipovaccines, it would be in the position of guaranteeing their efficacy to an extent. This he declines to do. May I ask him: Does the Public Health Service guarantee the efficacy of saline vaccines against influenza?

I have before me catalogues of biologic products used for colds and a variety of disorders put out under license of the U. S. Public Health Service. Does the service guarantee the efficacy of each case? Or does it stand behind them in the sense in which it declines to stand behind lipovaccines? The last half of the sentence quoted is: "The evidence at our disposal indicates that a saline vaccine containing pneumococci is at least as effective as an oil suspension of the

1. That our readers may have in mind the statements of Dr. Evans which were criticized by Dr. Blue, we again quote them:

"There is considerable diversity of opinion as to whether vaccines need to be made from the local strains of bacteria. Since very few communities can get vaccines from local strains, they will have to use the standard strains or do without.

"Some state boards of health will furnish vaccines as they did last winter.

"The question about lipovaccines is a difficult one to answer. The Public Health Service has refused to allow the commercial houses to sell lipovaccines. Some city and some state health departments will doubtless manufacture them and distribute them to their citizens.

"The citizens who live in such communities are lucky. It looks as though other citizens will have to go without. The Army is supplying lipovaccines for the soldiers. They offer it to employees of the War Department. They have issued two favorable reports on lipovaccines as protective agents against pneumonia, one based upon thousands of vaccinations done at Camp Upton, and the other upon thousands of vaccinations done at Camp Wheeler. Not only are they behind it with their reports, but they are supplying it for the use of those for whose health they are responsible.

"In civil life vaccination must be done at one sitting, or it will not be done at all. The people will not come three times at week intervals for injection. Therefore vaccination to be done at three sittings is not practicable. A great many people want to be vaccinated with lipovaccine. The commercial houses are willing and able to supply them with the vaccine. The Public Health Service will not let them.

"The physicians who are dependent upon the commercial houses for their supplies will have to get along without lipovaccines. They can get the three injection vaccines. Some health departments will equip their physicians with the other hand."

organisms." Suppose we ask, on the basis of this statement, Why license the one and refuse to license the other?

The point made in favor of lipovaccines in my article was that, using lipovaccines, vaccination can be done at one sitting, whereas three sittings extending over three weeks is required for vaccination when done with saline vaccines. Vaccination at three sittings is possible in military life. In civil life it does not work. In ordinary times for the civilian life, for the uses of municipal and state health departments, the only vaccination worth talking about is one-sitting vaccination.

Now, Dr. Blue may be right as to a laboratory proposition that a saline vaccine containing pneumococci is at least as effective as an oil suspension of the organism; but when it comes to fighting pneumonia and influenza among civilians, he is just about as wrong as a man could be. His action is equivalent to saying that influenza-pneumonia vaccination shall not be done generally. I do not think this a wise decision.

W. A. EVANS, M.D., Chicago.

COMMENT.—Dr. Evans' letter was referred to Surgeon-General Blue, who replies: "As Dr. Evans acknowledges the accuracy of my criticisms concerning his citations of the Army use of lipovaccines, and as nothing in that portion of his letter concerning the refusal of the U. S. Public Health Service to license lipovaccines requires any comment in addition to that found in my original letter, no further reply seems to be necessary."—ED.

THE EIGHT HOUR DAY

To the Editor:—I have translated the following statement from the issue of *La Presse médicale* just received. I believe it might well be published in THE JOURNAL.

THE EIGHT HOUR DAY—A FRENCH MEDICAL INTERPRETATION

"No sound comes from the press. In parliament an individual rises and says, 'The Labor Party desires an eight hour day.'

"Immediately deputies, senators, they of the left, of the center, of the north, they who follow the red flag and they of the tricolor, all cry with one voice, "Demos has spoken! What he wishes shall be done." *"Amen,"* says Clemenceau. And the law is voted.

"The vote is characteristic of the psychology of modern parlimentarism. Political science, difficult and understood only by economists and by the wise, demands reflection, calculation of the moral and economic consequences which a law will effect and provision in it against counter-strokes and reaction. But politics is no longer the key which opens enlarged vision nor has politics become more democratic. Parliament is democratic and it is charged with the making of laws, but it merely churns them up. Modern parliaments cast laws into the clouds, just as a child might sow seeds, without knowing whether the plants which would arise would be weeds or wheat, a poison or a cure.

"It is impossible to think of a law more inopportune, or one more capable of increasing expenses, diminishing production, paralyzing commerce and industry, and delaying the reconstructions so necessary for our country.

"The ministries and the administrative officers of the state continue to recruit new employees by thousands upon thousands. Evidently this is a clever policy of dealing with the demobilized soldiers without dismissing those who have held office during the war. Evidently the process prevents the advancement of the old employees. The whole is a powerful machine which drains away the labor necessary for the farm and for productive industry.

"One has not yet observed the consequences of this intemperate law. Who would dare to say that before this law was passed there existed any group of overworked laborers in France? On the contrary, rail transportation has become less reliable and more expensive, the ports of the country are tied up, the construction of houses is absolutely at a standstill and indispensable undertakings are postponed until the Greek Kalends.

"For example, the directors of our hospitals are anxiously demanding how they can recruit, pay, lodge and provide food for the additional hundreds of supplementary employees whom the law makes necessary. Are the patients better cared for? No. The chiefs of service must wait for their necessary laboratories; the tuberculous must wait for their sanatoria.

"Unless the popular good sense does not immediately remedy the error of our legislators, we will soon be at the red dawn of a day without bread. For why should a farmer work longer than a hospital attendant? Why should the little guardian of turkeys in the pasture worry over them for longer hours than her sister who is in the beautiful bureau of Monsieur the Minister?

"Oh Parliament, be logical and apply the eight hour day to the workers in the field. Then the citizen will search the market in vain for an ounce of butter or a slice of bacon, even as a young man now will search Paris in vain to find a dwelling place in which to shelter his head and his illusions.

"The demagogue smiles at these miseries. What does he care for the cost of living? If bread fails he will eat cake. Famine may overtake the vulgar, but in *ventres dorés* there are always truffles."

GRAHAM LUSK, New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HARTMAN STILL WORKING THE PROFESSION

To the Editor:—The matter I am enclosing looks so much like a "work-the-doctor" game that I thought you might be interested to find out about it. Is it genuine or a collection agency follow-up scheme and is it being worked generally?

H. Z. FRISBIE, M.D., Elkland, Pa.

ANSWER.—The material sent in by Dr. Frisbie was a typewritten letter addressed to "Minister of the Gospel or Town Physician, Elkland, Pa." The letter was signed "Myrtle Moore" and accompanying it was a stamped envelope addressed "Myrtle Moore, 3925 Wentworth Ave., Chicago." The body of the letter was to the effect that Myrtle had recently written to a man (name given) in Elkland, Pa., but her letter had been returned undelivered. This fact led Myrtle to believe that the family had moved without letting her know. Then Myrtle continues:

"If it is not asking too much of you, I assure you it would be a great favor if you could advise or find out for me without putting yourself to too much trouble where a letter can reach this party. It is a matter of considerable importance."

The facts are, there is no Myrtle Moore, 3925 Wentworth Ave.—for the very good reason that 3925 Wentworth Avenue is a vacant lot. In the adjoining lot, however, 3923, is the "Administration Building" of the Hartman Furniture and Carpet Company, a concern that sells furniture and house furnishings on the instalment plan. This scheme on the part of the Hartman company to use physicians and ministers of the gospel as unpaid collection agents was exposed editorially in THE JOURNAL, August 23, last. At that time we showed that doctors in various parts of the country were receiving letters from "Myrtle Moore," "Helen Taylor" and other more or less hypothetical individuals asking similar questions about the present whereabouts of some individual and enclosing stamped envelops that were addressed to a location in Chicago that did not exist. There is nothing fraudulent about the scheme, as the postal authorities notified us when we took up the matter previously. Nevertheless, it is a cheap and petty piece of unworthy misrepresentation and deceit. It reflects credit neither on the furniture concern that perpetrates it nor the postoffice authorities by whose assistance it becomes effective.

ACRIFLAVINE IN THE TREATMENT OF GONORRHEA

To the Editor:—In THE JOURNAL, Nov. 8, 1919, under the heading New and Nonofficial Remedies, I notice a description of acriflavine. I have been told that this was used extensively in France in the treatment of gonorrhea with very good results along the same lines that argyrol is employed, that is, an injection in the strength of 1: 1,000. Please give me more information on this subject, and advise me through whom the drug may be obtained.

C. W. SHACKELFORD, M.D., Fairfield, Ala.

ANSWER.—A review of the literature on the therapeutic use of acriflavine and proflavine has been prepared by the Council on Pharmacy and Chemistry. The report of the

Council reviewing this abstract appeared in THE JOURNAL, Nov. 15, 1919, p. 1443, with the announcement that the complete report will be sent on receipt of a two-cent stamp. A further report on the use of acriflavine in the treatment of gonorrhea was published in the *U. S. Naval Medical Bulletin* 13:859, 1919. Young, White and Swartz (THE JOURNAL, Nov. 15, 1919, p. 1483) also report on the value of acriflavine in the treatment of gonorrhea.

TREATMENT OF PNEUMONIA

To the Editor:—The pneumonia season is approaching and we are all anxious to be able to combat this dreaded disease as successfully as possible. Please inform me: (1) Is any serum or vaccine treatment better than the expectant plan? (2) How about antipneumococcus serum, (3) pneumonia phylacogen (Parke, Davis & Co.), or (4) pneumococcus antigen (Eli, Lilly & Co.), as devised by E. C. Rosenow? I am anxious to do my patients justice.

B. O. LEBLANC, M.D., St. Gabriel, La.

ANSWER.—1. It has not been demonstrated that any serum or vaccine treatment, used alone, is better than symptomatic treatment.

2. The serums against infection with Type I organisms appear to produce good results in the treatment of pneumonia caused by Type I organisms. The use of this depends on correct diagnosis of the type of infecting organism, for which good laboratory assistance is required. Polyvalent serums for use in pneumonia are on the market, but the evidence is not conclusive as to their efficiency. It must also be borne in mind that patients may be harmed by the intravenous injection of 100 or more cubic centimeters of horse serum.

3. Parke, Davis & Company's phylacogens, it is generally understood, are the filtered products of several bacterial species. Any results which follow their administration represent the reaction of the patient to the bacterial proteins. There is no reliable evidence that any of them has any specific virtues in pneumonia. Again it must be remembered that these protein reactions are by no means free from danger.

4. The pneumococcus antigen must be regarded as in the experimental stage.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, Jan. 13. Chairman, Dr. Samuel W. Welch, Montgomery.

ARIZONA: Phoenix, Jan. 6-7. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

COLORADO: Denver, Jan. 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DELAWARE: Dover, Dec. 9-11. Sec., Regular Board Dr. P. S. Downs, Dover. Sec. Homeopathic Board, Dr. H. W. Howell, 824 Washington St., Wilmington. Pres. Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

DISTRICT OF COLUMBIA: Washington, Jan. 13. Sec., Dr. Edgar P. Copeland, Washington.

FLORIDA: Jacksonville, Dec. 15-16. Sec., Dr. G. A. Munch, 1306 Franklin St., Tampa.

FLORIDA: Tampa, Dec. 1-2. Sec., Regular Board, Dr. Wm. M. Rowlett, Citizens' Bank Building, Tampa.

HAWAII: Honolulu, Jan. 5-8. Sec., Dr. J. R. Judd, Honolulu.

ILLINOIS: Chicago, Dec. 1-3. Mr. F. C. Dodds, Supt. of Registration, Springfield.

IOWA: Des Moines, Dec. 16-18. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.

KENTUCKY: Louisville, Dec. 2. Sec., Dr. A. T. McCormack, 532 W. Main St., Louisville.

LOUISIANA: New Orleans, Dec. 1-3. Sec., Regular Board, Dr. E. W. Mahler, 141 Elk Place, New Orleans.

MARYLAND: Baltimore, Dec. 9-12. Sec., Dr. J. McP. Scott, 137 W. Washington St., Hagerstown.

NORTH DAKOTA: Grand Forks, Jan. 6. Sec., Dr. George M. Williamson, Grand Forks.

OHIO: Columbus, Dec. 2-4. Sec., Dr. H. M. Platter, State House, Columbus.

OKLAHOMA: Oklahoma City, Jan. 13-14. Sec., Dr. J. M. Byrum, Shawnee.

OREGON: Portland, Jan. 6. Sec., Dr. Frank W. Wood, 559 Morgan Bldg., Portland.

PENNSYLVANIA: Philadelphia, Jan. 13-17. Pres., Dr. John M. Baldy, Harrisburg.

SOUTH DAKOTA: Pierre, Jan. 13. Sec., Dr. Park B. Jenkins, Wanbay.

VIRGINIA: Richmond, Dec. 9-12. Sec., Dr. J. W. Preston, 511 McBain Bldg., Roanoke.

WASHINGTON: Spokane, Jan. 6-8. Sec., Dr. C. N. Suttner, 415 Old National Bank Bldg., Spokane.

WISCONSIN: Madison, Jan. 13-15. Sec., Dr. John M. Dodd, 220 E. Second St., Ashland.

Louisiana July Examination

Dr. E. W. Mahler, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, July 1-3, 1919. The examination covered 12 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 71 candidates examined, 68 passed and 3 failed. Ten candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Alabama		(1907)	82.7
University of Arkansas	(1915) 75.8,	(1916)	75
Atlanta College of Physicians and Surgeons		(1913)	75.2
Chicago College of Medicine and Surgery		(1912)	79.8
Tulane University (1913) 83.9, (1917) 82.4, (1918) 84.5, 86.6, (1919) 75.9, 78.9, 79.2, 79.6, 79.8, 80.2, 80.5, 81.1, 81.2, 81.3, 81.8, 82.2, 82.6, 82.9, 83.4, 83.6, 83.9, 84.2, 84.3, 84.4, 84.5, 84.6, 84.7, 84.9, 85.3, 85.4, 85.7, 85.9, 86, 86, 86.2, 86.2, 87.3, 87.7, 87.8, 88.1, 88.4, 88.5, 88.6, 88.8, 88.8, 89.1, 89.4, 89.5, 89.7, 89.7, 89.9, 90.5, 91.5, 93.2.			
Marion Sims-Beaumont Medical College		(1901)	89.6
St. Louis College of Physicians and Surgeons		(1908)	73.7*
Jefferson Medical College		(1884)	78.9
Meharry Medical College		(1919)	81.6
Memphis Hospital Medical College		(1908)	76.1
University of the South		(1899)	81.4
University of Tennessee	(1913) 76.2,	(1918)	89.2
University of Virginia		(1913)	85.3
FAILED			
Meharry Medical College	(1918) 69.5,	(1919)	62.8
Memphis Hospital Medical College		(1911)	68.9

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
University of Alabama		(1910), (1917)	Alabama
State University of Iowa College of Medicine		(1917)	Iowa
Tulane University		(1916)	Colorado
College of Physicians and Surgeons, Baltimore		(1913)	W. Virginia
Johns Hopkins University		(1915)	Mississippi
Long Island College Hospital		(1909)	New York
University of Pennsylvania		(1894), (1903)	Penna.
University of Tennessee		(1916)	Arkansas

* Credit allowed for years of practice.

Massachusetts July Examination

Dr. Walter P. Bowers, secretary of the Massachusetts State Board of Registration in Medicine, reports the oral, written and practical examination held at Boston, July 8-10, 1919. The examination covered 13 subjects, and included 70 questions. An average of 75 per cent. was required to pass. Of the 58 candidates examined, 45, including one osteopath, passed, and 13, including 2 osteopaths, failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
College of Medical Evangelists		(1916)	83.5
College of Physicians and Surgs., Los Angeles		(1918)	75
University of California		(1917)	84.2
Hahnemann Medical College, Chicago		(1916)	75.4
University of Illinois		(1916)	79.7
Bowdoin Medical School		(1917)	78.4
Johns Hopkins University	(1915) 81.9,	(1917) 81.6, (1919	81.9
University of Maryland		(1917)	79.8
College of Physicians and Surgeons, Boston		(1919)	78.3
Harvard University (1915) 79.6, (1916) 81.4, 84, 85.1, (1919) 81.3, 81.4, 83.3, 83.6, 85.7.			78.2
Middlesex College of Medicine and Surgery (1918) 75,		(1919)	75.5
Tufts College Medical School (1906) 76.1, (1916) 75.5, (1919) 77.1, 79.2.			76.3
University of Michigan Medical School	(1903) 75,	(1918)	84
Washington University Medical School		(1919)	80.1
John A. Creighton Medical School		(1918)	75
Albany Medical College		(1914)	79.3
New York Medical College and Hosp. for Women		(1918)	82
University of Oklahoma		(1918)	81.3
University of Pennsylvania	(1917) 81.9,	(1918)	82.6
Woman's Medical College of Philadelphia		(1905)	77.2
University of Vermont	(1896) 75, (1913) 75,	(1919) 75.1,	77.7
Laval University		(1917)	75
Dalhousie University		(1914)	75.7
FAILED			
College of Physicians and Surgs., Boston	(1915) 55.9,	(1916)	67
Chicago Hospital College of Medicine	(1917) 68,	(1919)	73.1
Middlesex Coll. of Med. and Surgery	(1918) 59.2,	(1919) 70.5,	72.7*
Tufts College Medical School	(1917) 72.8,	(1919)	69.2
Laval University		(1910)	56.2

* Did not complete examination.

Dr. Bowers also reports that three candidates were licensed by special examinations held July 1 and July 31, 1919. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Yale University		(1918)	85.2
Hahnemann Medical Coll. and Hosp. of Philadelphia		(1910)	75
University of Vermont		(1919)	80.5

Book Notices

A MANUAL OF EXERCISES FOR THE CORRECTION OF SPEECH DISORDERS. By May Kirk Scripture, B.A., Instructor in Speech, Columbia University (Extension and Summer Session), and Eugene Jackson, B.A., in Charge of Speech Correction at the University and Bellevue Hospital Medical College Clinic, New York City. Cloth. Price, $2 net. Philadelphia: F. A. Davis Company, 1919.

This book is intended to embody the vocal materials and methods which the authors make use of in their work of speech correction. The material is presented in the form of fifty lessons, each lesson being intended to develop some especial phase of the work. The lessons are augmented by forty-six illustrations and considerable explanatory matter. The book seems to be intended for use in classes of the public schools, for example, and its aim to present underlying methods and materials that may be employed in the pedagogic treatment of speech disorders in general, and for the improvement of carelessness in speech. It is the first book of its kind to appear in America. The danger in the speech situation at this time is superficiality and mechanicalness of procedure. What is needed in speech work is a book of this general character that makes every proposed procedure rest solidly on physiologic foundations. Viewed from this standpoint, the book, while it contains much useful material, seems vague as to both physiology and methods. But if the teacher has been well grounded in principles, she would be able to adapt much of this material to her own independent needs.

A TEXTBOOK OF PHYSIOLOGY. By Martin Flack, C.B.E., M.B., B.Ch. Research Staff, Department of Applied Physiology, Medical Research Committee, and Leonard Hill, M.B., F.R.S., Director of Applied Physiology Department Medical Research Committee, London Hospital Medical College. Cloth. Price, $8.50 net. Pp. 800, with 485 illustrations. New York: Longmans, Green & Co., 1919.

This book has been written "with the primary object of giving to the student, in an easily understandable form, the fundamental facts and theories of physiology, bearing in mind the limitations necessary in the student's textbook." It compares favorably with a number of standard textbooks of physiology published in the United States and Great Britain, for the use of medical students. The illustrations are excellent, the paper and print good; but in a number of the chapters the subject matter is not brought up to date. There is no reference to literature, an omission that detracts from the value of the book in the hands of the medical student. In some of the chapters, notably those on general dietetics, diet under various conditions, etc., some of the nutrition experiences of the recent war are brought in.

THE NERVOUS HEART: ITS NATURE, CAUSATION, PROGNOSIS AND TREATMENT. By R. M. Wilson, Captain, R. A. M. C., and John H. Carroll, Major, M. C., U. S. Army. Cloth. Price $2.50. Pp. 136. New York: Oxford University Press, 1919.

In this volume the authors view the problem of heart disease from a new angle—that of the nervous system. Especially in their explanation of functional heart disease is emphasis laid on the influence of the vagus depressor and the sympathetic nervous system. Etiologically infectious-toxic agents are believed to play an important part. There is a good outline of the well-known symptomatology, prognosis and treatment of the so-called irritable heart. The theories underlying the views expressed in this work, which are an outgrowth of the views expressed by Wilson in his "Hearts of Man," are interesting and stimulating, but need further study before being generally accepted.

INDUSTRIAL NURSING FOR INDUSTRIAL, PUBLIC HEALTH, AND PUPIL NURSES, AND FOR EMPLOYERS OF LABOR. By Florence Swift Wright, R.N., Bureau of Child Hygiene, New Jersey State Department of Health. Cloth. Price, $1.25. Pp. 179. New York, The Macmillan Company, 1919.

With the aid of many industrial nurses, the author has prepared a brief outline of what is relatively a new field. She states that the trained nurse was probably first employed in industry in 1895, but that it is only within the last decade that the real development in this field has taken place. She points out that in addition to a good preliminary education and hospital training, the industrial nurse requires a working knowledge of psychology, and of civic, industrial, social and relief problems. The book discusses the work, presenting typical forms and blanks for practical use. There is a good analysis of the relations of the nurse to her fellow employees. In an appendix are a brief outline of first aid methods and a list of sources of information relative to national social organizatons, and, finally, a brief bibliography for special reading.

ATLAS OF OPERATIVE GYNÆCOLOGY. By Barton Cooke Hirst, M.D., Professor of Obstetrics, University of Pennsylvania. Cloth. Price, $7. Pp. 292, with 210 illustrations. Philadelphia: J. B. Lippincott Company, 1919.

The author describes the technic of gynecologic operations, on the basis of a large experience, selecting in each case the operation which he believes best suited to the woman's subsequent life history. The text is brief, being wholly subordinated to the full-page illustrations of operative technic. The illustrations are so numerous and so excellent that they are almost an equivalent to standing at the side of the operator and witnessing the operation.

Social Medicine, Medical Economics and Miscellany

FIFTY-ONE DAYS FOR KILLING

Mrs. Emma D. Simpson, who shot her husband in court last April, was adjudged insane by a jury, September 26, and was thereafter sent to the Elgin State Hospital for the Insane. On Friday she was adjudged sane by a jury of experts and released. "The Elgin city court was packed with a sympathetic crowd," says the report.

She was fifty-one days at the institution. Her remark on regaining her liberty is significant. "I did not do the right thing—absolutely not," she said. "I could not have done such a thing had I been in my right mind. But until the last hour of my life I'll believe my husband wanted to kill me and marry a bad woman."

After the shooting she buoyantly said to the *Tribune* staff photographer, "When I go to court for this, I will defend myself. I will need no attorney; the new unwritten law, which does not permit a married man to love another woman, will be my defense. I will tell my whole story to the jury and they will free me."

The *Tribune*, in comment on this breezy announcement, said, "They probably will. What is law, what is a human life to the sloppy sentimentality of the juries which sit in these cases?"

Mrs. Simpson's optimism and our prediction have been essentially justified. She did not try her own case. The unwritten law she relied on was not formally pleaded. But the conventional plea of temporary insanity was, and there were learned experts to support it. The jury did not set her free. It compromised by setting her on the road to freedom. She was solemnly adjudged insane and sent for treatment.

Foreseeing the outcome, the *Tribune* at the time of the trial said:

"Pity is at work for Mrs. Simpson, but we hear of little for the husband she slew in a public courtroom. She is said to be nervous. Nervous women should not carry firearms. Mrs. Simpson may be demented; if so, she should be placed in an asylum for life; *not only until she makes a surprising recovery.*"

The recovery is made, but it is not surprising. This tragi-comedy, beginning with the slaying of a human being by an infuriated woman, proceeding through the elaborate drama of the American criminal trial, and ending with the solemn farce at Elgin, develops as inevitably as an Ibsen play.

Sentimentality is lawless. The disease in America is endemic. We need some drastic moral therapy.—Chicago *Tribune*.

Medicolegal

Refusing to Submit to Roentgen-Ray Examination

(Rose v. Desmond Charcoal & Chemical Co. et al. (Mich.), 172 N. W. R. 415)

The Supreme Court of Michigan, in setting aside an order of the industrial accident board denying a petition by an employer and an insurance company for permission to cease payments to an employee who tripped while wheeling ashes and tore ligaments on the kneecap, holds that it could not be said that the evidence was conclusive establishing the fact that the employee had recovered from his injury. It must be said that there was some, if slight, evidence supporting a contrary conclusion. It tended strongly to prove that he was recovered. But the doubt which it left in the mind was a small one, and his refusals to submit his person to expert roentgen-ray examination demanded suspension of his right to compensation, under the provisions of the workmen's compensation law. This was the order which the board ought to have made in the premises The court does not intimate that it was its opinion that the employee had not had expert roentgen-ray examination, which was some time in the year 1915. But it was a fair consensus of the opinions expressed by the medical witnesses that any doubts now existing about his condition might be resolved by an expert roentgen-ray examination made presently. He had only to give his time in order that such examination might be made, the petitioners having offered to pay therefor.

Medical Practice Act Constitutional—Chiropractor

(People, for Use of State Board of Health v. Kane (Ill.), 123 N. E. R. 265)

The Supreme Court of Illinois, in reversing a judgment rendered for the plaintiff and remanding the cause, says that the defendant was charged with practicing medicine without a license from the state board of health, the action being brought under the act of 1899, as amended in 1917, which authorized a recovery of $100 for the first offense and $200 for each subsequent offense. The offense defined by the act consisted in practicing medicine or surgery or treating human ailments without a certificate issued by the state board of health. The offense did not consist of treating some individual, but for practicing medicine generally by treating the public, so that a first offense meant a first conviction. There could not be a judgment for five first offenses, and the judgment must be reversed for that reason.

The statute was enacted in the exercise of police power, for the protection of the lives and health of the people. The state has a right to regulate any and all kinds of occupations for that purpose, and all measures and regulations for the protection of the public health, not infringing on constitutional rights, are within the scope of the police power. The right of a citizen to follow any legitimate occupation is subject to the paramount power of the state to impose such regulations as may be required to secure the people against ignorance, incapacity, deception or fraud in the practice of medicine, subject only to such restraints as are imposed by the constitution.

Section 7 of the act provided that any person should be regarded as practicing medicine, within the meaning of the act, who should treat or profess to treat, operate on or prescribe for any physical ailment or any physical injury to or deformity of another. The defendant was a chiropractor, and his practice consisted in adjusting the vertebrae of the spinal column. That method of treating physical ailments, injuries or deformities is not within the common meaning of the term "practicing medicine," but the general assembly had a right to define the practice of medicine for the purposes of the act so as to include that method. Within constitutional limits, the general assembly is the sole judge of what laws shall be enacted for the protection of the public health. But every citizen has a right to be governed by fixed rules, and cannot be subjected to the will or caprice of an administrative board.

The act provided for examinations of persons applying for licenses to practice medicine, and, as to those desiring to practice medicine and surgery in all its branches, prescribed general rules for an examination. As to those who desired to practice any other system or science of treating human ailments, who did not use medicines internally or externally, or practice operative surgery, it required that examinations should be of a character sufficiently strict to test their qualifications as practitioners. That provision, standing alone, conferred on the state board of health arbitrary power to grant or refuse licenses in its own discretion and on its own judgment as to what examination would be sufficient to test the qualification of each applicant for a license. It furnished no standard and no guide and no security to an applicant by which the courts could determine whether the requirements of the board were reasonable or not. The act, however, provided that all examinations should be conducted under rules and regulations prescribed by the board, which should provide for a fair and wholly impartial method of examination. Such rules and regulations, if made, would be subject to review by the courts to determine whether reasonable or not. Considering the provision of the statute for the adoption of rules and regulations subject to judicial review, under which examinations should be made and licenses issued, the statute did not violate any constitutional right.

Society Proceedings

COMING MEETINGS

Medical Society of Hawaii, Honolulu, Nov. 29-30, Dec. 1.
Society of American Bacteriologists, Boston, Mass., Dec. 30-31.
Southern Minnesota Medical Assn., Mankato, Dec. 1-2.
Southern Surgical Association, New Orleans, Dec. 16-18.
Western Roentgen Society, Chicago, Dec. 10-12.
Western Surgical Association, Kansas City, Mo., Dec. 5-6.

CLINICAL CONGRESS OF AMERICAN COLLEGE OF SURGEONS

Ninth Annual Meeting, held in New York, Oct. 20-24, 1919

(Continued from page 1633)

Stiff and Flail Joints

SIR ROBERT JONES, Liverpool, England: One of the common products of the results of war injuries was the flail joint. The greater number of these disabilities were the direct results of excisions deliberately performed at casualty clearing stations or base hospitals in order to save the limb from amputation or the patient from death by minimizing local sepsis and preventing general sepsis. Cases in which so-called limited section was performed have resulted in better function than was obtained in those cases in which the excision was very extensive. Moreover, cases in which sepsis has been overcome and bones allowed to remain in position have sometimes resulted in a very good firm ankylosis with excellent function, if the position of election has been maintained. The treatment of a flail joint consists in the removal of necrotic bone and scar tissue, correct position, operative attempts at improved pseudarthrosis, production of ankylosis, and retention in mechanical apparatus. Ankylosis should be aimed at rather than mobility. In limiting the extent of excision, muscular attachments should be preserved. The rule should be that as soon as the surgeon can do so he should place the bones as nearly together as he can and in the best position for future functioning, whether a pseudarthrosis or an ankylosis occurs. Bone grafting, as generally understood, is of very limited application in injuries of the upper part of the shaft of the femur. Ankylosis in the case of limited excision of the hip is of no advantage and certainly does not justify the severe operation which it necessarily entails. The only practical treatment of a flail knee is ankylosis, and if the ends are in good position nothing is needed but to saw the ends and fix them with screw or nail. When there is a wide

separation associated with sinuses, it is necessary, after sawing the ends of the bone, to bring a bulky sliding graft from the tibia or femur and wedge it in at right angles to the line of the joint. A flail ankle is so rare that I do not recall an instance of it as a result of a war wound. Many operations for fixation of the shoulder have failed because the surgeon has been content to bare the glenoid and freshen the humerus. This is quite insufficient. It is important, before the arm is ankylosed, to ascertain whether the scapula is mobile and whether it retains its normal position with regard to the humerus. If the scapula is fixed and the arm abducted, the patient will have a fixed abducted shoulder with an arm that he will not be able to lower.

DISCUSSION

DR. JOSEPH A. BLAKE, New York: If the treatment of the articulations is properly carried out, a stiff joint rarely occurs, unless there is disease. If one wishes to conserve the motion of a joint, he should never allow it to be lost. This means motion from the time of the injury, not several times a day, but some arrangement whereby unconscious movements may be made at any time. It is desirable that the patient should make the motions himself, since active motion not only maintains the functions of the muscles but also makes new bone conform to the architecture of the joint. Not only does active motion prevent deformity, but it favors healing by improving the nourishment of the parts. In a joint already stiffened, one is confronted with two problems: permanent ankylosis or a return to motion by proper treatment. The practice of breaking up a stiff joint under anesthesia is utterly and absolutely reprehensible and should never be done.

DR. JOHN L. PORTER, Chicago: In some cases of flail shoulder and flail elbow which I saw, the articular ends of the bones had been shot away, the wounds had become infected, and scar tissue had formed in the gaps. We devised a special wire splint for these cases which held the bones at the shoulder and elbow together and secured sufficient fixation, though not ankylosis, to make the joints useful. When healing was complete, active and passive motion were instituted. In the treatment of stiff joints it seems as though we are in danger of losing sight of the fact that stability must be preserved if the joint is to be useful. The results of arthroplastic operations on the knee joint are, as a rule, disappointing, as they leave the patient with neither a flail nor a stable joint, and often with 35 degrees of motion instead of 90 degrees. With such a knee a man cannot go up or down stairs, and is much more disabled than with a stiff knee fixed at an angle of 10 degrees. A stiff shoulder is very disabling if it is fixed close to the body; but if the arm is in the position of election—a slight abduction—one can get along quite comfortably.

DR. JOEL GOLDTHWAITE, Boston: A flail joint is rarely seen in civil life, but stiff joints are quite common. It is a simple matter to mobilize a stiff joint, but the procedure must be designed with a view to the ultimate usefulness of the limb. The shoulder in the proper position is much better stiff than flail. A flail elbow is better than a stiff joint. The knee joint should never be mobilized when once it is completely ankylosed. The hip joint is fairly easy to mobilize, and many times the patient is better off if this joint is mobile. Fingers are very easy to mobilize.

The Physician and Surgeon in the Industrial Era

DR. OTTO P. GEIER, Cincinnati: Is it right that the physician who has a close view of the living and thinking of the people should play so small a part in their lives? Are we doing all we can to bring about health and sanity which are basic at all times to the national welfare? Workmen's compensation laws and group insurance schemes are being promoted without seeking the guidance of those best fitted to inspire and direct such undertakings. As a consequence of neglect to take cognizance of these things on the part of the leaders of the medical profession, we have the general practitioner tinkering with industrial injuries with the result that disability is prolonged and there is a greater loss of time and wages to the workman, and a loss of time and money to the employer, with consequent decreased production, and to society a greater burden. In President Wilson's industrial conference the medical and surgical profession had no representatives. If the profession does not awaken from its social, or rather unsocial, torpor, legislation will be passed to suit labor or capital, but it will have no consideration for the interests of the profession. Do these facts suggest why we have been unsuccessful in our demand for a federal department of health? The properly trained physician and surgeon should be taken out of his office where his services reach mainly only the rich or, through dispensaries, hospitals and clinics, the poor, and placed in group diagnostic clinics where his services will be at the disposal of the laborer. Our usefulness in the discussion of social problems has not thus far been noteworthy. During the last decade there has developed, in response to the demand of industry, the industrial physician, who is desperately trying to cope with industrial problems, which are quite different from the problems the physician meets ordinarily. He must be familiar with all the factors affecting the health of employees, with the sanitation of factory and home, with the workman's food and his habits, with the occupational diseases, and with the effects of fatigue and long working hours. Provision should be made for the special training of physicians and surgeons through the establishment of university departments, graduate courses, and endowed research institutes. The industrial physician must be attentive to the rising standards of medicine, for he is the molder of opinion in behalf of preventive medicine.

DISCUSSION

DR. JOHN MOORHEAD, New York: The problem is largely one of education, of direction given primarily in the medical college, transmitted by the visiting staff to the hospital intern, and made the subject of clinical demonstration at surgical meetings. Several of the colleges have already inaugurated special courses in these branches. Let us realize that this is a problem on the road to becoming a specialty, one demanding a training and experience that makes of its possessor a teacher, a leader. One concrete suggestion is offered, namely, that this congress establish a counterpart of the interallied surgical conference.

DR. WILLIAM O'NEILL SHERMAN, Pittsburgh: The psychologic time has arrived for scientific medicine and surgery to take its place in industry. There are at least 500,000 industrial accidents in the United States annually, and 90 per cent. of all employees need medical or surgical care in the course of a year. The vast majority of industrial injuries are minor wounds that may easily be converted into serious wounds if not cared for intelligently. Industrial injuries are responsible for the loss of many millions of dollars annually. This loss can be diminished greatly by applying military surgery to industry. The problems of military and industrial surgery are similar, except for the presence of war and foreign bodies. Men trained for this work may be secured through the establishment of courses of military and industrial surgery, medicine, surgery and hygiene, with provision for graduate work in these branches.

DR. JONATHAN M. WAINWRIGHT, Scranton, Pa.: It does not matter just how large or small the casualty list in industry is, it is large enough to demand the most careful attention. In this field much may be done in the way of reconstruction. This we have learned and all the methods of physiotherapy are being employed. The dispensary is economically and industrially more important than the hospital, and should be provided with the best trained talent.

MR. R. M. LITTLE, Safety Institute of America, New York: There are 2,000,000 industrial accidents in the United States annually, the larger percentage of them minor injuries. More than 700,000 industrial workers lose more than four weeks' time annually as the result of industrial accidents. There are at least 22,500 industrial deaths annually in this country, and our industries turn out each year 15,000 workmen suffering from permanent disability. The loss of nine days annually (the estimate of the United States Bureau of Labor) by each of 50,000,000 workers on account of sickness means a tremendous industrial and economic loss. It is imperative that

the knowledge of the surgeon be brought to bear practically on the problem of the tremendous national loss due to sickness and disability among those engaged in industry. Every medical school must soon have a chair of industrial medicine and surgery so that medical students may be trained for this industrial service. If the physician and surgeon are to succeed they must have the industrial point of view.

(To be continued)

MEDICAL SOCIETY OF VIRGINIA

Regular Annual Meeting, held in Richmond, Oct. 28-31, 1919

The President, Dr. Ennion G. Williams, Richmond, in the Chair

SYMPOSIUM ON GASTRIC AND DUODENAL ULCER

Etiology and Symptomatology

Dr. Charles R. Grandy, Norfolk: There has been a radical change in our views in the last few years. Abrasions occur in the mucosa without causing ulcer. Hyperacidity is now considered an effect rather than a cause. Septicemia is not entirely proved to be the cause, but is largely so considered. We were formerly not diagnosing the great majority of these cases. The diagnosis is best made by careful attention to the history.

Diagnosis and Medical Treatment

Dr. Edward McGuire, Richmond: Too much appreciation cannot be given to the roentgen ray, but at the same time roentgenologists are prone to furnish a diagnosis without always furnishing roentgenographic proof. Formerly we attached much importance to gastric neuroses; now we look for more definite lesions.

Surgical Treatment

Dr. Stephen Watts, Charlottesville: It is of importance to continue medical treatment after surgical treatment. The best surgical procedure is destruction of the ulcer by cautery, or incision and cautery, plus a gastro-enterostomy. Excision and destruction should be practiced if not too dangerous to the patient. A specimen may be examined for malignancy before using the cautery. Shock is not a contraindication to operation in cases of acute perforation. My experience in operating for hemorrhage is an unhappy one.

DISCUSSION

Dr. Shelton Horsley, Richmond: The chief thing we expect by any treatment is the relief of pain. The patient may not have pain for years and yet the roentgen ray shows ulcer still existing. When the ulcer reaches the muscular layer there is pain. Pain is due to pressure, and this is due to hyperperistalsis. Gastro-enterostomy relieves the excessive peristalsis. Hyperacidity causes hyperperistalsis. Gastro-enterostomy, if carefully followed up, will not give the fine results claimed for it. Symptoms of all sorts are not entirely relieved.

Dr. Douglas VanderHoof, Richmond: In determining on the method of treatment there are three principal factors to consider: first, the location of the ulcer by roentgen-ray studies, and the age of the patient; second, complications such as other inflammatory lesions within the abdomen, and third, the temperament of the patient. Medical treatment must be carried out with pertinacity, over a period of eighteen months or two years. When the patient gets free of pain he is likely to neglect the treatment. The best argument for medical treatment is the result of surgical treatment correcting the hyperacidity.

Dr. J. K. Hall, Richmond: I do not believe that there is such a thing as a medical cure of ulcer. There may be abatement of the symptoms for fifteen or twenty years, and the ulcer still be in existence.

Dr. A. M. Willis, Richmond: Ulcer in the stomach is always the beginning of carcinoma of the stomach. If there be any virtue in medical treatment, of how much more value it is if the ulcer has been excised.

Hemoptysis

Dr. E. E. Watson, Salem: The treatment is prophylactic, immediate and posthemorrhagic. Codein, in one-quarter grain dose, quiets the patient and controls the pulse. I advise against the use of morphin. It predisposes to bronchial pneumonia. The nitrites cause general vascular dilation. The effect of nitroglycerin, one one-hundredth grain, under the tongue, lasts for forty-five minutes; then sodium nitrite should be used. The patient should be propped up at 30 degrees or lie on the side. I cannot see that atropin and emetin have been of any value. Horse serum or diphtheria antitoxin has been beneficial, as has also been strapping the chest. We use artificial pneumothorax. No walking should be allowed for two or three weeks, and the patient should be cautioned against lying with the arms above the head. Furthermore, overtreatment should be avoided.

Home Treatment of Pulmonary Tuberculosis

Dr. W. E Brown, Catawba Sanatorium: A large number of these patients are benefited by home treatment, and many cases are arrested. It is a case of home treatment or no treatment for the great majority of persons. Sputum cups and gauze handkerchiefs that can be burned should be used. Nothing should be placed in the mouth except toothbrush, food and drink. Cough can be controlled largely by will power. Cough is sometimes a reflex from wax in the ears, or from enlargement of the lingual tonsil. Vasomotor depressants, such as nitroglycerin or sodium nitrite, should be given for hemoptysis. Three substantial meals, with a glass of milk at each meal, and one between meals, should be given. The patient can do as well in his own climate as in any other, if he is properly cared for. The patient should study constantly how to relax completely. Recovery may be expected in 75 per cent. of incipient cases by strict attention.

DISCUSSION

Dr. Charles R. Grandy, Norfolk: For control of cough I have been using inhalations of chloroform. I have it mixed with creosote and alcohol so that it can be left with the patient.

Dr. B. B. Bagby, West Point: Personal experience convinces me that patients sleeping outdoors should have on more underclothing. I use two good suits of heavy underwear and two pairs of yarn socks. Also, the bed should be warm when the patient gets into it. The old fashioned bed warmer made of a slab of soapstone well heated and placed in the bed is excellent. Another thing is the matter of cleansing the teeth; stress should be laid on this.

Group Medicine and Its Feasibility and Value to Patients and Physicians

Dr. J. Allison Hodges, Richmond: Physicians should learn from the industrial world as to the value of organization, not for gain but for service. The very rich and the very poor get the advantages of specialists, but the great rank of the people do not. The general practitioner needs the specialist and vice versa. It is feasible in any community of 3,000 or more to use team work. When this is established and in working order, medicine will have an impetus it has never had before.

Bladder Diverticulum

Dr. R. L. Payne, Norfolk: Bladder diverticulum should be suspected in all cases of persistent cystitis with foul urine. The diagnosis is suggested by the clinical features, but is made definitely by the cystoscope, lead catheters and cystograms. As a last resort we may fall back on an exploratory incision. In cases of small multiple diverticula, especially in women, weak silver irrigation should be employed. Most men use it too strong. I use from eight to fifteen drops of a 25 per cent. solution in a pint of water.

DISCUSSION

Dr. S. N. Michaux, Richmond: The cystoscope is a very unreliable means of diagnosis. We frequently find the orifice very small, almost occluded. Unless we are equipped with multiple cystoscopes we shall not be able to explore

the entire globe of the bladder. Cystograms may not divulge the diverticulum. All means of diagnosis should be used. Cystograms are often unreliable The bladder is often not sufficiently distended. If the patient is narcotized with morphin, more distention will be permitted. One of the most significant symptoms is finding a profuse discharge of blood or pus after the bladder has been emptied with the catheter. The reason the operation mortality is high is that few patients have adequate preliminary treatment; they are septic when the operation is begun.

DR. T. J. HUGHES, Roanoke: It is essential to use preoperative antiseptic treatment. I should like to have Dr. Payne tell us how to proceed if the diverticulum is at or very near the ureter. Some competent urologists advocate the removal of the kidney, but I do not agree.

DR. W. H. RIBBLE, Wytheville: I should like Dr. Payne to compare argyrol with silver nitrate, as an irrigation.

DR. R. L. PAYNE, Norfolk: I have never seen any irritating effect from sodium bromid. I have used thorium and potassium iodid. I have seen irritation from the potassium iodid. The most dependable thing for last resort is a lead catheter. If the catheter should enter the diverticulum, a lead catheter should be inserted and the roentgen ray used. The bladder should be washed out with a 1:250 hydrochloric acid solution. I do not use argyrol any more. I think silver nitrate is better if used weak enough.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

November, 1919, **18**, No. 5

*Results of Thymus Extirpation in the Dog. Review of Experimental Literature on Thymus Extirpation. E. A. Park and R. D. McClure, Baltimore.—p. 317.

Thymus Studies.—Park and McClure report in detail a critical review of the literature on thymus extirpation and the results of their own observations made on dogs. They believe they have shown that thymus function is absolutely unessential to life; that there are other explanations than deprivation of thymus function for the symptoms and pathologic changes which have been reported in thymectomized animals, and that those explanations must be considered seriously in the interpretation of all positive experimental findings, and, further, that for the interpretation of the positive experimental findings reported by some investigators those explanations become absolutely essential. In putting valuations on the results which have been obtained by means of thymus extirpation, the greatest importance must be given to the fact that the symptoms and pathologic changes which have been ascribed to deprivations of thymus function are almost without exception the symptoms and pathologic changes which occur in laboratory animals as the result of confinement, improper food, unhygienic conditions, bacterial and parasitic infections and are identical with or closely related to those which have been reported after the removal of at least two organs of internal secretion in addition to the thymus, after excision of the carotid bodies and after a number of different abdominal operations. The authors were unable to affirm the claims of other workers that extirpation of the thymus produces any detectable alteration in the hair, teeth, contour of the body, muscular development, strength, activity or intelligence of the experimental animal. Extirpation of the thymus probably does not influence growth or development. The possibility that it may cause retardation in development and delayed closure of the epiphyses, however, cannot be excluded absolutely. Extirpation of the thymus probably produces no alterations in the organs of internal secretion. It is possible that it produces well marked changes in the organs of internal secretion in the period immediately following thymectomy which was not covered in these experiments.

American Review of Tuberculosis, Baltimore

October, 1919, **3**, No. 8

Studies on Tuberculous Infection. IV. Vascular Supply of Lymphoid Tissue in Rabbit's Lung. W. S. Miller, Baltimore.—p. 449.
Id. V. Origin and Relationships of Bronchial Artery in Guinea-Pig. H. S. Willis, Baltimore.—p. 453.
Cultivation of Recently Isolated and Laboratory Strains of Human Tubercle Bacilli on Artificial Mediums. H. H. Corper, New Haven. —p. 461.
*An Investigation of Acid Fastness of Tubercle Bacilli. G. Suyenaga, Chicago.—p. 473.
*Comparison of Certain Antigens Used in Complement Fixation Tests in Pulmonary Tuberculosis. H. C. Young and J. P. Givler, New Haven.—p. 476.
*Employment of Rest and Exercise After Tuberculous Patients have Returned to Work. H. M. Kinghorn, Saranac Lake, N. Y.—p. 483.
End Results of Employment of Expatients in Tuberculosis Sanatoriums. H. L. Barnes, Wallum Lake, R. I.—p. 491.
*Condition of Patients Twenty Years After Discharge from Trudeau Sanatorium. F. H. Heise, Trudeau, N. Y.—p. 497.
Ancient Hindoo Knowledge of Tuberculosis. W. F. Petersen, Chicago. —p. 500.

Acid Fastness of Tubercle Bacilli.—Suyenaga reports experiments to influence the acid fastness of tubercle bacilli by cultivation. He grew a comparatively avirulent strain on several mediums; and finds that rapid transfer and rapid growth of the younger border of colonies did not noticeably affect acid fastness, the younger cultures were not much less acid fast than older ones. On a nonnutrient medium of agar in water, acid fastness was greatly reduced but not absolutely destroyed. Within wide limits the reaction of the medium had no marked effect on acid fastness.

Comparison of Various Antigens Used in Complement Fixation.—Young and Givler made tests on a large number of serums with three antigens, namely Cooper's autolysate, Petroff's methyl alcohol soluble antigen and Wilson's. The three antigens did not differ greatly in the percentage of positive findings in known cases of pulmonary tuberculosis (Petroff's 66 per cent.; Cooper's 63 per cent., and Wilson's 57 per cent.). The positive findings in the various classes of cases for the three antigens was 11 per cent. for clinically normal individuals, 58 per cent., questionably tuberculous; 56 per cent., incipient; 64 per cent. (66 per cent., sputum positive), moderately advanced, and 71 per cent. far advanced. Moribund cases, 44 per cent., gave lower percentage than the definite cases. Fifty to 60 per cent. of positive syphilitic serums gave cross fixation with the three antigens. The serum of only one out of seven guinea-pigs (of a total of seventy-five) proved unsuitable for complement fixation tests.

Rest and Exercise for Tuberculous Patients Who Have Returned to Work.—Kinghorn pleads for the importance of a more or less systematic regimen for tuberculous patients who have ceased active treatment and have returned to work. He outlines measures that should be employed for several years after an arrest or "cure" has been established. Among other measures which he is convinced would make for better ultimate results in tuberculosis therapy he mentions: a much longer period of sanatorium treatment; more thorough employment of rest and the nonuse of heavy muscular work; and greater care of patients after discharge. Patients should never be allowed to return to hard muscular work, but should be placed in a suitable locality and at occupations that do not call for muscular work.

Condition of Patients Twenty Years After Discharge from Trudeau Sanatorium.—The Trudeau sanatorium has succeeded in tracing 814 patients who have been discharged from the institution twenty years or more. Of these 666, or 81.8 per cent. are dead, while 148, or 18.2 per cent. are alive. Heise further notes that of those discharged with the disease active, 4 per cent. are now known to be alive, and 33 per cent. are alive of those who were classified as "inactive" on discharge.

Annals of Surgery, Philadelphia

November, 1919, **70**, No. 5

*Importance of Spleen in Resistance to Infection. D. H. Morris and F. D. Bullock, New York.—p. 513.
*Life Expectancy of Patients Following Operations for Gastric and Duodenal Ulcer. D. C. Balfour, Rochester, Minn.—p. 522.
*Operative Treatment of Peptic Ulcer; Removal of Ulcer with Gastro-Enterostomy, or Gastro-Enterostomy Alone. J. B. Deaver, Philadelphia.—p. 526.

Choledocho-Enterostomy and Postoperative Dilation of Bile Ducts. W. H. Barber, New York.—p. 530.
*Condition of Appendix in Five Hundred Laparotomies on Patients Presenting no Symptoms of Appendicitis. J. T. Williams and R. Slater, Boston.—p. 535.
Lung Abscess. N. W. Green, New York.—p. 539.
Treatment of Chronic Empyema. M. B. Tinker, Ithaca, N. Y., and J. E. Wattenberg, Kansas City.—pp. 545 and 552.
*Pathogenesis and Treatment of Lymphosarcoma and Hodgkin's Granuloma. I. Levin, New York.—p. 561.
Tuberculosis of Submaxillary and Cervical Glands in the Elderly. M. B. Hutchins, Atlanta, Ga.—p. 570.
*Benign Xanthic Extraperiosteal Tumor of Extremities Containing Foreign Body Giant Cells. A. C. Broders, Rochester, Minn.—p. 574.
*Glioma of Buttock. A. R. Kimpton, Boston.—p. 582.
*Experimental Resection of Dog's Knee Joint. L. W. Ely, San Francisco.—p. 586.
Fractures of Neck of Femur. W. C. Campbell, Memphis.—p. 600.
Fracture of Femur: Application of War Lessons to Civil Practice. C. R. Metcalf, Concord, N. H.—p. 603.
Genito-Urinary Surgery in an Army General Hospital. W. A. Sherwood and W. P. Herrick, New York.—p. 623.
Salvage of Hand by Timely Reparative Surgery. J. B. Roberts, Philadelphia.—p. 627.

Spleen in Resistance to Infection.—In order to arrive at some definite conclusion as to the importance of the spleen in opposing infection, rats were splenectomized by Morris and Bullock. From a similar number of control rats one testicle was removed. Both sets of animals were then exposed to chance laboratory contagion with the bacillus of rat plague. The results showed in a very definite manner that while these animals may get along fairly well without the spleen in the absence of any infection, the reverse is the case when the organism is put to the strain of resisting acute bacterial invasion. Under the circumstances, the authors feel compelled to infer that the spleen normally aids tremendously in resisting infectious processes in rats, and that its removal temporarily robs the body of its resistance until such a time, at least, as compensatory processes will have had a chance to reestablish this. Bearing this in mind, some of the fatalities following splenectomy, especially where death was attributed to infection, may find a ready explanation and tend to increase caution in the removal of this organ.

Life Expectancy After Gastric Ulcer Operations.—Of a series of 2,431 patients operated on for gastric and duodenal ulcer in the Mayo clinic between 1906 and 1915, all but 108 were traced. The figures quoted by Balfour show that the operative mortality from all causes in 545 cases of gastric ulcer in which operation was done during this period was 4.5 per cent., while in 1,684 cases of duodenal ulcer the operative mortality from all causes was 2 per cent. Gastric ulcer carries, therefore, twice the operative risk of duodenal ulcer. Five hundred and twenty-one gastric ulcer patients were under observation on the average of 3.6 years, and in that time 88 (17 per cent.) died from all causes. One thousand six hundred and fifty-one duodenal ulcer patients were under observation on the average of 3.4 years, and in that time 85 (approximately 5 per cent.) died from all causes. Ninety-one gastric and duodenal ulcer patients were under observation on the average of 3.8 years, and in that time 9 (10 per cent.) died.

Operative Treatment of Peptic Ulcer.—Deaver has done fifty-six operations for peptic ulcer with two deaths. In all but two of the entire series, closure of the perforation followed by gastro-enterostomy was the method used.

Condition of Appendix in Laparotomies.—One hundred and sixty-seven, or almost exactly one third of the patients operated on in the gynecologic service at the Boston City Hospital and whose histories were analyzed by Williams and Slater showed changes in the appendix. In sixty-four instances the condition demanding operation was inflammatory disease of the uterine appendages. In the majority of these cases the involvement of the appendix was secondary to the pelvic process. This leaves, however, 103 abnormal appendices not associated with any inflammatory process in the pelvis and producing no symptoms or signs which could be brought out by a careful history or a thorough abdominal and vaginal examination. Perhaps, two or three of these were cases in which the appendix was found adherent to a fibroid of the uterus or a cyst of the ovary. In the remainder, approximately 100 cases, the appendix condition cannot be ascribed in any way to pelvic disease, and, therefore, a coincidence so far as any gynecologic cause is concerned. With few exceptions the lesions of the appendix were chronic in nature.

Lymphosarcoma and Hodgkin's Granuloma.—Levin's experience has shown that the results of the radium and roentgen-ray treatment of Hodgkin's disease are extremely encouraging, and therefore he feels that these agents should be employed in every case as soon as the diagnosis is made. However, the treatment must be conducted with great energy; half measures are less than useless.

Benign Xanthic Extraperiosteal Tumor.—Seventeen cases of benign xanthic extraperitoneal tumors of the extremities containing body giant cells examined in the Mayo Clinic are analyzed by Broders. The upper extremities were involved in ten cases; the lower extremities in seven cases. A history of injury was given in six cases, a local excision of the tumor was done in twelve cases; amputation in three cases. Fifteen patients were traced. Fourteen are living. There have been no recurrences. The patient reported dead died from general decline at the age of 73. There had been no recurrence of the tumor more than seven years after local excision.

Glioma of Buttock.—Kimpton reports two cases of glioma of the buttock. Both patients were 14 weeks old. In one case the cyst extended upward in front of the vertebra to the first lumbar vertebra. It had had apparently some connection with the spinal canal from the side of the coccyx and the anterior surface of the sacrum. On the inner side of the sac was a large, red, soft, cellular, infiltrating mass. In the other case the tumor was adherent to the rectum for about two and one-half inches. When the pedicle was freed, except for final attachment, it was found to come from the inner surface of the coccyx, the lower end of which was removed with the tumor.

Results of Experimental Resection of Knee-Joint.—Ely claims that after a fracture or a resection the whole tendency of the resulting process between the bones themselves, unless they are held firmly together without motion, is the separation of the bone ends by fibrous tissue and fibrocartilage, with a new joint, before the bones can unite. In order for bony union to occur, the bone ends must be held in contact, absolutely immobile. In the ordinary fracture, nature provides the immobility by a bony callus outside the cortex, in the periosteum. In those situations where the bony callus is not laid down, a false joint usually results unless complete immobilization is maintained until actual union of the bone ends occurs. In resections the external bone callus does not form. Hence, unless the mechanical requirements of complete rest can be answered, resections of joints are not followed by bony ankylosis.

Boston Medical and Surgical Journal

Nov. 13, 1919,, 181, No. 20

*Silent Renal Calculi. E. L. Young, Jr., Boston.—p. 573.
Series of Hundred Consecutive Cases of Acute Empyema. W. Whittemore, Boston.—p. 575.
Lethargic Encephalitis. A. W. Fairbanks, Boston.—p. 578.
*Types of Syphilitic Disease Treated at a Public Clinic. J. F. Martin, Boston.—p. 582.
Surgical Risk and Preoperative Treatment. F. H. Washburn, Holden, Mass.—p. 585.

Silent Renal Calculi.—In nearly 4,000 necropsies at the Massachusetts General Hospital disclosing stone in the kidney or ureter, there was only one case with a completely negative history and urinary findings and a normal kidney macroscopically and microscopically; but there were four cases without symptoms and with a negative urine; six cases without any damage to be demonstrated at necropsy; and fifteen cases where the damage was too slight to compromise the integrity of the kidney. Two patients with stones in the calices known to have been present for at least six or seven years, who had had repeated attacks of renal colic, showed one a normal and the other an essentially normal kidney. Young says that stones in the ureter more surely do kidney damage than do stones in the pelvis or calix, and a small stone, if arrested in the ureter, may do as much

damage as a large one. Stones in the calices can cause as much damage as stones in the pelvis.

Types of Syphilitic Disease Treated at a Public Clinic.—Martin regards the following points pertaining to the prevention, prophylaxis and treatment of syphilis as of paramount importance in attempting to reduce the prevalence of the disease: reporting of primary and open lesions; venereal prophylaxis; syphilis free marriage; educational propaganda lectures; printed vehicles and the cinema; following up the syphilitics lapsing in treatment; cooperation by the patient while under treatment; research work in syphilology; and educating the physician how to treat syphilis properly, including doing a Wassermann test in all doubtful cases of disease—because at most any unresponsive condition might be caused by an obscure syphilitic infection.

Illinois Medical Journal, Oak Park

November, 1919, **36**, No. 6

Practical Principles for Protection Against Cancer. A. J. Ochsner, Chicago.—p. 225.
Extradural Irritation and Abscess. R. H. Good, Chicago.—p. 226.
Glaucoma. H. W. Woodruff, Joliet.—p. 228.
Heredity in Myopia. H. H. Bowen, Chicago.—p. 230.
Manifestations of Syphilis in Nose and Throat. A. H. Geiger, Chicago.—p. 233.
Syphilis in Heart Lesions. W. W. Dicker, Chicago.—p. 235.
Hypertrophied Anal Papillae (Papillitis). C. J. Drueck, Chicago.—p. 237.
Medical Officer's Duties in an Army Cantonment. E. Thompson, East St. Louis.—p. 238.
Bacteriuria. L. E. Schmidt, Chicago.—p. 241.
Immediate Closure in Selected Cases of Acute Mastoiditis. J. S. Clark, Freeport.—p. 249.
Business Evolution and the Future of Private Medical Practice. W. E. Fairfield, Green Bay.—p. 250.
Penetrating Injuries of Knee Joint. H. C. Mitchell, Carbondale.—p. 255.
Surgical Treatment of Gastric Ulcer; Report of Cases. W. J. Carter, Mattoon.—p. 256.

Journal of Cutaneous Diseases, Chicago

November, 1919, **37**, No. 11

Amebiasis Cutis. M. F. Engman and A. S. Heithaus, St. Louis.—p. 715.
Primary Actinomycosis of Skin Involving the Hand. I. R. Pels, Baltimore.—p. 740.
Venereal Disease Campaign in Retrospect. H. G. Irvine, Minneapolis.—p. 748.
Tyranny of Wassermann Test. H. Lisser, San Francisco.—p. 754.

Journal of Industrial Hygiene, New York

October, 1919, **1**, No. 6

Wage Earning Women in War Time: Textile Industry. F. Kelley.—p. 261.
*Relation of Drug Addiction to Industry. T. S. Blair, Harrisburg, Pa.—p. 286.
Problems in Training of Industrial Nurses. A. H. Strong.—p. 297.
Blood Examinations of Trinitrotoluene Workers. G. R. Minot, Boston.—p. 301.

Relation of Drug Addiction to Industry.—Blair is of the opinion that industrial physicians by studying the problem of drug addiction in its industrial bearings, by making surveys and by developing statistics can do much toward clarifying and solving the whole problem. Business and industry must make it their care to see to it that the narcotic laws are enforced as effectively as are any other necessary statutory enactments. The few debased physicians who infest almost every community and who deliberately keep up addiction through ignorance or cupidity, must be taken in hand. The "jokers" must be taken out of narcotic laws; a vast excess of importation of narcotics must no more be permitted than is an excess importation of alcohol, dynamite or undesirable aliens. Substitutes also must come under the law. Hydrated chloral, cannabis, hyoscin and similar drugs must not be allowed a foothold in the United States. Why should the free sale of chloral be permitted just because a certain number of proprietary medicine makers profit by it? The heroin problem must be dealt with in a practical way. In many ways heroin is the worst habit forming drug known, and its very legitimate application in medicine can be filled by other drugs. In Brazil cannabis smoking is becoming a national menace and the vice can readily be imported. Why allow it to be? The cannabis smoker nearly always becomes an imbecile in time.

Journal of Orthopedic Surgery, Lincoln, Neb.

November, 1919, **1**, No. 2

Disability Following Injuries to Back in Industrial Accidents. J. W. Sever, Boston.—p. 657.
Treatment of Flail Joints of Upper Limb Following Gunshot Injuries. H. Platt, Manchester.—p. 667.
*Use of Lane Plates in Fractures. P. P. Swett, Hartford, Conn.—p. 673.
Application of Curative Therapy in the Workshop. E. B. Mumford, Camp Zachary Taylor.—p. 676.

Lane Plates.—Swett believes that the Lane plates offer a highly satisfactory, safe and efficient means for securing the direct fixation of bony fragments in properly selected cases. On account of their facility of application, they are particularly desirable in severely communited fractures where they seem mechanically more efficient than other agents and where the introduction of other fixation materials is likely to further increase the trauma.

Kentucky Medical Journal, Bowling Green

November, 1919, **17**, No. 11

*Posterior Pituitary Secretion in Treatment of Mitral Regurgitation. R. A. Bate, Louisville.—p. 419.
Diagnosis of Presentation and Position as an Aid in Conduct of Labor. E. Speidel, Louisville.—p. 422.
Ectopic Pregnancy. G. W. Payne. Bardwell.—p. 427.
Management and Care of Normal Infant the First Two Years of its Life. C. C. Carroll, White Mills.—p. 428.
Pneumonia in Infancy. F. S. Clark, Rome.—p. 434.
Venereal Diseases. C. H. Harris, Louisville.—p. 436.
*Cerebrospinal Fever. C. N. Caldwell, Louisville.—p. 438.

Posterior Pituitary Secretion in Treatment of Mitral Regurgitation.—Bate is certain that many of his patients with "rheumatic" endocarditis have been supported to compensating periods by posterior pituitary extract.

Cerebrospinal Fever.—Of the 113 cases analyzed by Caldwell 72 were of the usual type, 9 of the chronic variety, 10 of the abortive form and 22 were fulminating. On admission, 15 patients were conscious, 17 semiconscious, 57 stuporous and 24 delirious; 63 had moderate rigidity of the neck and 29 had herpes on the lips; 21 had retention of urine; an eruption of some character was seen in 61 cases and 3 patients were jaundiced; 100 per cent. complained of headache. The following complications were encountered: pneumonia, 17; eye complications, 12; nephritis, 8; mastoiditis, 1; metastatic abscesses, 2; synovitis, two (both in the knee joint; pericarditis with effusion, 1; deafness, 2; empyema, 1, and brain abscess, 2. There was a total mortality of 34 per cent. but 10 of these patients had an intercurrent pneumonia of longer standing than the meningitis, 1 had an empyema and 1 had a brain abscess that was an extension from the middle ear; therefore, the actual mortality was 23 per cent.

Laryngoscope, St. Louis

October, 1919, **29**, No. 10

Local Anesthesia and the Mastoid Operation. M. A. Goldstein, St. Louis.—p. 559.
Consensual Reaction in Hearing Centers. J. F. Callahan, Brockton, Mass.—p. 569.
Malignant Tumor of Pharynx with Acute Infection. C. M. Clark, Rochester, Minn.—p. 579.
Case of Otic Abscess of Brain. J. Guttman, New York.—p. 581.
Focal Disease Involving Maxillary Antrum, Teeth and Eye. L. D. Brose, Evansville, Ind.—p. 583.
Peri-Sinus and Epidural Mastoid Abscess Subsequent to Influenza. H. B. Blackwell, New York.—p. 587.
Radium Therapy in Tubal Stenosis. G. Holmgren, Stockholm, Sweden.—p. 590.

Military Surgeon, Washington, D. C.

October, 1919, **45**, No. 4

Sanitary Survey of Camp Jackson, S. C. E. J. Scannell, U. S. Army.—p. 365.
Health of Troops in United States During 1918. G. A. Soper, U. S. Army.—p. 377.
Sputum Borne Infections on Troop Transports. C. Lynch and J. G. Cumming, U. S. Army.—p. 399.
Abstract of Report of Professor Rubner Made in the Reichsgesundheitsrat, Dec. 30, 1917.—p. 405.
Five Hundred Cases of Scarlet Fever. J. B. Ludy, E. L. Hunt and L. H. Cogswell, U. S. Army.—p. 416.
Diphtheria in A. E. F. M. P. Neal and A. C. Sutton, U. S. Army.—p. 421.
Rapid Absorption of Catgut Sutures. N. W. Sharpe, New York.—p. 436.
A New Appliance for "Flail" Elbows. F. S. Chambers, U. S. Army.—p. 440.

Ward Surgeon—His Relation to Reconstruction. R. B. Dillehunt, U. S. Army.—p. 446.

November, 1919, 45, No. 5

Relation of Civil Practitioner to Medical Corps of Army. H. P. Birmingham, U. S. Army.—p. 495.
Logistics of Medical Department of Navy for Distant Operations of Fleet. F. E. McCullough, U. S. Navy.—p. 502.
Military Aspect of Base Hospitals. G. M. Blech, U. S. Army.—p. 508.
Epidermophyton Infection. J. L. Revans, U. S. Army.—p. 514.
Diphtheria in A. E. F. M. P. Neal and A. C. Sutton, U. S. Army. —p. 521.
Modification of Lyster Bag Treatment of Water for Field Use. L. T. Fairhall, U. S. Army.—p. 538.
Observations of Urologist in Demobilization Work. K. V. Kibble, U. S. Army.—p. 545.
Management of Hysteria in War. T. A. Williams, Washington, D. C. —p. 549.
*Diagnostic Serum for B. Diphtheriae. E. H. Mason, U. S. Army.—p. 560.
Census of Susceptibility to Measles and Its Relation to Quarantine Procedures. A. W. Sellards, U. S. Army.—p. 652.

Diagnostic Serum for B. Diphtheriae.—The diagnostic serum used by Mason was developed in a rabbit, its titer being positive in 1:320. This was developed with strain No. 1. All cultures were isolated in pure culture by plating out the original throat culture on Loeffler's blood serum coagulated in Petri dishes. Agglutination reactions were run with fresh saline suspensions treated at 62 C. for fifteen minutes, it being found that a lower temperature for that time would not kill the majority of the strains. After setting up, the reactions were run in a water bath at 56 C. for four hours, then kept in an icebox over night, being read in the morning. Controls were run with normal rabbit's serum, dilution 1:20 and with saline. Virulence for a guinea-pig was determined with a limited number of the strains, it being impossible to determine it in all cases due to a shortage of animals. These tests were performed by the subcutaneous method. Ten strains of organisms, morphologically diphtheroids, isolated from various sources, in no case gave any agglutination with the diagnostic serum prepared with strain No. 1 (*B. diphtheriae*). The controls in these cases were also negative. In only one case out of the sixty-five strains examined did the organism fail to agglutinate and none of the strains showed any agglutination in normal rabbit's serum in dilution of 1:20 or in saline.

Ohio State Medical Journal, Columbus

Nov. 1, 1919, 15, No. 11

Gallbladder Surgery; Analysis of End Results. L. G. Bowers, Dayton. —p. 696.
Surgical Ideal. G. E. McCullough, Troy.—p. 701.
Plea for Earlier Diagnosis of Pulmonary Tuberculosis. J. D. Thomas, Mt. Vernon.—p. 703.
*Basal Metabolism in Exophthalmic Goiter. C. D. Christie, Cleveland. —p. 708.
Five Hundred Cases of Shell Shock. C. E. Kiely, Cincinnati.—p. 711.
*Obstetrics from Standpoint of General Practitioner. J. M. Denison, Akron.—p. 718.
Treatment of Septic Arthritis by Autogenous Vaccines Prepared from Conellan-King Diplococcus. C. H. Hay, Cleveland.—p. 722.
Syphilitic Reinfection. A. W. Nelson, Cincinnati.—p. 726.
What Can Be Accomplished with Cataphoresis in Skin Diseases? A. Ravogli, Cincinnati.—p. 729.

Basal Metabolism in Exophthalmic Goiter.—About sixty determinations of basal metabolism have been made by Christie on patients with various forms of goiter. The majority of these determinations have been on patients who have shown ample clinical evidence for a diagnosis of exophthalmic goiter. Christie has established definitely in his own mind that an increase in metabolism is a most constant symptom of exophthalmic goiter, and that the degree of this increase is a very constant quantitative measure of the severity of the disease, and that other forms of goiter do not give values which are above normal and that there are doubtless many border line cases which, without a quantative measurement of the metabolism, could be looked on with perfect justice as cases of exophthalmic goiter without increase in metabolism Furthermore, Christie says, the simple portable apparatus described by Benedict is entirely feasible for the average clinic, because it is simple to manipulate, cheap and gives very accurate results.

Obstetrics.—Denison points out that the conscientious general practitioner must realize the necessity of prenatal care; must be able to diagnose and handle the usual and even more complicated presentations; must be judicious enough to determine the indications for forceps or cesarean section. He must know how to handle placenta praevia and postpartum hemorrhage; as well as to repair lacerations and obviate or treat infection. Those who will not give obstetrics the attention it deserves should leave it alone, while those who have a liking and facility for it should not hesitate to specialize, as there is a big field for their efforts.

West Virginia Medical Journal, Huntington

November, 1919, 14, No. 5

Differential Diagnosis of Pleurisy with Effusion. D. A. MacGregor, Wheeling.—p. 161.
Physician's Responsibilities. J. C. Irons, Dartmour.—p. 167.
Long Resection of Intestine. J. E. Cannaday, Charleston.—p. 170.
Inflammation of Prostate. H. G. Tonkins, Martinisburg.—p. 172.
Public Health Nursing. J. T. Dillon, Charleston.—p. 175.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

Oct. 25, 1919, 2, No. 3069

Atrocities of War. J. Bland-Sutton.—p. 517.
Spread of Influenza in an Industrial Area. A. Garvie.—p. 519.
Scope of Certain Gaseous Disinfectants in Prophylaxis of Influenza. A. Gregor.—p. 523.
Intussusception Due to Polypus of Small Intestine. E. C. Bevers. —p. 527.
Case of Strangulated Hernia with Volvulus. B. Hughes.—p. 527.
Moving Water Bath. A. D. Webster.—p. 527.

Nov. 1, 1919, 2, No. 3070

Forerunners of Harvey in Antiquity. R. Crawford.—p. 551.
*Advantages and Disadvantages of Gauze Packing in Abdominal Operations. A. E. Maylard.—p. 556.
Removal of Tonsils and Adenoids. C. J. Symonds.—p. 558.
*Cutaneous Anthrax. E. F. Neve.—p. 559.
Rupture of Large Intestine: Operation: Death. E. Huntley.—p. 559.

Advantages and Disadvantages of Gauze Packing.—In Maylard's opinion the disadvantages of gauze packing would seem to so greatly outweigh the advantages that but one conclusion appears warranted—that gauze packing should be avoided, except under definite and clear limitations. These limitations may be thus expressed: the use of as small a piece of gauze as possible and for as short a time as possible, which equally connotes the avoidance of large packs retained for several days.

Cutaneous Anthrax.—The treatment adopted by Neve in these cases is very thorough cauterization with a red hot button cautery. Excision and incisions he regards as almost equally dangerous, tending as they do to open up fresh planes of communication, and thereby promote systemic infection. The natural local reaction to the pathogenic irritant is very strong. There is most vigorous leukocytosis. As a rule, the blood is not infected. The cautery, while destroying the virus, also increases the local reaction. Clinically, Neve's records point to this as the most satisfactory method of local treatment. Sclavo's serum has been recommended. But most of these patients, when they come under treatment, must have already produced their own antitoxins; those who have not and are almost or quite moribund are hopeless. Seven of a series of seventy-five cases terminated fatally, giving a mortality of 9.3 per cent.

Bulletin of Naval Medical Association of Japan, Tokyo

June, 1919, No. 24

*Tannin Alcohol as Disinfectant of Skin. T. Orimo.—p. 1.
Influence of Reduction of Oxygen in Air and of Atmospheric Pressure on Blood Pressure, Respiration, Pulse and Grasp. H. Hara. —p. 2.
*Case of Arsphenamin Injection Followed by Jaundice and Pigmentation of Skin. U. Nagai.—p. 3.

Tannin Alcohol as a Disinfectant of Skin.—Tannin alcohol (10 parts of a 20 per cent. watery solution of methylene blue added to 100 parts of 20 per cent. tannin alcohol) recently recommended by Wederhake as a useful skin disinfectant is said to be as effective as iodin tincture, without any irritating effect on the skin. Orimo established the following facts: (1) that staphylococci, streptococci, *B. coli* and *B. pyocyaneus* were killed within thirty seconds in vitro;

(2) that the sterilization of threads impregnated with suspensions of the above mentioned microbes took place in from one to ten minutes, while it was affected within one minute by iodin tincture; (3) that the surface of the normal skin painted with this disinfectant, though not sterile, was almost free from pus forming microbes, as seen in the case of iodin tincture application; and a small portion of the skin, comprising all its layers, when put into a suitable culture medium, generally had growths of microbes belonging to the groups of *B. subtilis* and staphylococci, this also being the case for iodin tincture; (4) that this disinfectant was unable to penetrate as deeply into the skin as iodin tincture; (5) that in twenty-seven cases in which operation was done aseptically by this method of skin disinfection, all the wounds showed primary healing; (6) that this disinfectant was absolutely nonirritating to the skin.

Arsphenamin Injection Followed by Jaundice and Pigmentation of Skin.—Nagai's patient received an intravenous injection of a diluted solution of 0.3 gm. arsphenamin, and one week later a second intravenous injection of a concentrated solution of 0.6 gm. of neo-arsaminol was given. The jaundice and black pigmentation of the skin developed in about two weeks after the second injection, and the patient had the appearance of one suffering from Addison's disease, though he complained of no subjective symptoms. The jaundice disappeared in three months, and the black pigmentation of the skin, although much improved, was still traceable from deposits of pigment, after seven months.

Japan Medical World, Tokyo

Oct. 12, 1919, No. 304

*Cholesterin Contents of Blood in Kakke, Anemia, Syphilis and Hemiplegia. T. Yakakoshi.
Excretory Function of Kidneys; Special Reference Urea and Chlorid Compounds. G. Ebara.
Treatment of Gonorrheal Affections with Silver Electroids. T. Karasumaru.
*Relation between Perforation of Heart and Death. M. Ando.
Cancer of Esophagus. T. Iriuwa.

Cholesterin Content of Blood in Kakke, Anemia, Syphilis and Hemiplegia.—Yamakoshi reports that the cholesterin content of ten normal Japanese varied from 130 mg. to 160 mg. in 100 c.c. of blood plasma. The cholesterin in forty cases of kakke disease was generally decreased but the decrease is by no means specific. The cholesterin was also decreased in cases of anemia and syphilis. Three cases of hemiplegia were examined. In all there was a remarkable increase in cholesterin.

Relation Between Perforation of Heart and Death.—Ando states that the length of the wound bears an important relation to the time of death. An oblique wound through the cardiac muscle layer causes a more delayed death than does a perpendicular wound. By tamponing the heart, a more speedy death occurred. If the wound involves the cardiac nerves, death occurs more rapidly than otherwise. If the wound is present in a more actively motile portion of the heart muscles, a more sudden death occurs than when it is present in more sluggish portions.

Lancet, London

Oct. 25, 1919, **2**, No. 5017

International Standards of Public Health and Welfare Work. W. C. White.—p. 719.
Ideals in Radiology and Electrology. A. E. Barclay.—p. 720.
*Adjustment of Reaction of Bacteriologic Mediums. J. McIntosh and W. A. M. Smart.—p. 723.
*Traumatic Rupture of Intestine Without External Injury; Four Cases. E. G. Stanley.—p. 726.
*Celiac Disease or Boric Acid Poisoning? D. Forsyth.—p. 728.
"Spanish Influenza": Its Nature and Etiology. A. Edington.—p. 730.
*Influenzal Bronchopneumonia and Pneumonia Treated with Army Mixed Vaccine. J. Black-Milne and K. Rogers.—p. 731.
Hyperthyroidism in Influenza. A. T. Todd.—p. 733.
Two Cases of Foreign Body in Esophagus Requiring Esophagotomy in Children. L. Colledge and G. A. Ewart.—p. 734.
*Hypertonic Salt Solution in Treatment of Tuberculous Abscess. L. Durante.—p. 735.

Reaction of Bacteriologic Mediums.—McIntosh and Smart claim that failures to adjust the reaction of a bacteriologic medium correctly arise chiefly from the use of unsuitable indicators, difficulty in judging the indicator "end-point," titration at the boiling point, and the hydrolysis which occurs during the process of sterilization. The chemical titration method has been found to be quite a reliable means of adjusting the reaction in routine practice, and by the procedure described the authors find that it is quite easy to adjust with considerable accuracy the reaction of a culture medium to the desired point. By means of specially prepared graph the Eyre system will, with certain precautions, indicate P_H values. In the colorimetric method the preparation of the accurate standard solutions required is much more difficult than is usually believed, and the error in the reaction is often quite appreciable when tested against the hydrogen electrode. The ideal method of adjusting the reaction would be by the hydrogen electrode, but the use of this apparatus requires a technical skill and knowledge which places it at present beyond ordinary laboratory application.

Traumatic Rupture of Intestine.—It used to be taught that the most fixed part of the intestine, being unable to escape the compressing force, was the part most frequently ruptured. In theory this seems probable, but in actual fact the reverse is true. The most fixed parts of the intestinal tract are the duodenum and parts of the large intestine other than the cecum, the transverse and pelvic colon, and the rectum. Experience shows, however, that the most movable parts of the large gut—the cecum, the transverse colon, and pelvic colon—are the most frequently ruptured, in that order. The coil of intestine nearest the abdominal wall at the point struck is usually the coil in which rupture takes place, and in so far as the first few feet of the jejunum and the last few feet of the ileum before the ileocecal junction are usually in this position they will tend to be injured. The mechanism is simple. If the abdomen is struck above the umbilicus the force is transmitted to the first few feet of the jejunum. The mobility of this coil allows it to be pushed back till it is checked ultimately by the vertebral column, and between the latter and the moving body it is crushed and ruptured. The frequency with which one finds a small tear in the posterior parietal peritoneum close to the summit of the vertebral column would suggest this mechanism, also the bruising and laceration at the tear. A parallel situation occurs at the ileocecal junction. There is no sure and invariable sign or symptom, or group of signs or symptoms, which render the diagnosis certain. Occasionally, a group of symptoms such as rapid pulse, marked abdominal rigidity and extreme tenderness, with the history, and with visible bruising and fracture of the ribs, makes rupture of the intestine almost a sure diagnosis; while, on the other hand, the absence of these signs and symptoms makes such a diagnosis improbable. The only two signs which appear of real use in diagnosis are cutaneous hyperesthesia and dullness in the left flank. The difficulty of diagnosis thus makes it clear that if there exists in the mind of the surgeon a suspicion that the intestine be ruptured, the right procedure is to open the abdomen and see, providing the patient can stand the added shock of the operation.

Celiac Disease or Boric Acid Poisoning.—In Forsyth's case the poisoning was due to the milk fed this 8 months old baby. It contained boric acid to the amount of 5 grains to the pint—i. e., the child had been taking from 7.5 to 10 grains of the preservative daily. With no other change in the treatment than a new supply of fresh cow's milk the aggravation of the symptoms ceased, and within a couple of days the child began to get well, though it was some months before she was herself again. The symptoms never recurred.

Vaccine in Influenzal Pneumonia.—The vaccine used throughout was the official army formula: 30 million *B. influenzae*, 100 million pneumococci and 40 million streptococci, in 9 minims. The dosage used was at first 3 minims (and later 5 minims) for the first dose; 5 minims (and later 8 minims) for the second. No bad effects were observed, the condition being unaffected in the few cases where it was not improved. The vaccine was only administered in severe cases with definite lung signs—actually in thirty-five cases out of a total of 236 cases of influenza. Out of the thirty-five cases there were three deaths; one patient had only one small and late dose and had marked

mitral stenosis; the second and the third patients appeared overwhelmed by the infection on admission; one patient had much hemorrhage from the lung, the other suffered from malarial debility of long standing. Each of these patients had two small doses of vaccine but died in a few days, without favorable response. Milne and Rogers are convinced of the improvement in general condition, in character of the sputum, and feeling of well-being of the patients that followed the injections in the majority of the cases.

Hypertonic Salt Solution in Treatment of Tuberculous Abscess.—To obtain a lymphatic current in the abscess cavity from the circumfocal area, Durante uses a sterilized hypertonic salt solution composed of magnesium chlorid, 2.5 gm.; distilled water, 100 c.c.; liquor formaldehydi, 0.5 c.c. The treatment of tuberculous abscess with hypertonic salt solutions is carried out in the same way and on the same indications as treatment with iodic solutions; but the abscess cavity should be emptied, washed out and filled with salt solution every four days. This frequency of treatment is called for by the fact that the quantity of lymph collected in the abscess cavity by osmotic pressure is great and produces a slight distension of the tissues, and that this distension, united with active hyperemia, causes a feeling of pain. The quantity of liquid that Durante leaves in the cavity varies from 10 to 40 c.c. according to (1) the capacity of the cavity, and (2) the greater or lesser degree of vascular action, which varies with the individual.

Nov. 1, 1919, **2**, No. 5018

Forerunners of Harvey in Antiquity. R. Crawfurd.—p. 765.
Hysteria in Light of War Experience. A. F. Hurst.—p. 771.
*Serum Treatment of Bacillary Dysentery; Dysentery Arthritis. B. G. Klein.—p. 775.
*Antidysentery Serum in Treatment of Bacillary Dysentery. W. E. Waller.—p. 778.
*Edema in Monkey Fed on Diet free from Fat-Soluble "A" Accessory Food Factor and Low in Fat. A. Harden and S. S. Zilva.—p. 780.
Violent Excitement. A. L. Taylor.—p. 781.
*Value of Antistreptococcus Serum in Influenza. W. Hughes.—p. 782.
Case of Cardiac Massage in Circulatory Failure Following Administration of Chloroform, Ether and Oxygen. M. J. Petty.—p. 784.
Perforation of Cecum by a Pin: Death from General Peritonitis. J. A. Macewen.—p. 785.

Serum Treatment of Bacillary Dysentery.—According to Klein antidysenteric serum should be given in large doses, from 60 to 100 c.c. It is best given intravenously. It is most efficacious when given early in the disease. From the point of view of serum treatment a severe case of bacillary dysentery may be considered in three stages: (*a*) From the onset of the illness to a period somewhere about the fifth or sixth day. During this stage antidysenteric serum (especially if given intravenously) has a most favorable effect, both as regards averting a fatal result and hastening recovery. A minority of cases fail to respond even to this early treatment. (*b*) An intermediate stage, from about the sixth to the tenth day. A patient having reached this stage is likely either to die or recover, irrespective of serum treatment. Nevertheless, the rate and completeness of recovery may still be affected by serum, especially if given in large doses, such as 100 c.c. (*c*) A third stage—the stage of "dehydration and profound intoxication"—generally starting about the tenth day. During this phase of the disease serum treatment is practically useless. A minority of patients who have survived to the tenth day or beyond it (without passing into the third stage) are still benefited by serum given in sufficient amount. In a series of 973 cases of bacillary dysentery, true dysentery arthritis ocurred in eight instances. The arthritis has no relation to the arthritis of serum sickness; five of the eight patients had not received serum. Neither had the arthritis any relation to previous injury. Clinically, it might have been mistaken for gonorrheal arthritis, but in no case was there a history of such infection. The treatment consisted in immobilizing the joint by the application of a McIntyre's splint and the removal of some of the fluid to relieve the pressure; from 60 to 100 c.c. was removed, generally much to the relief of the patient.

Serum Treatment of Bacillary Dysentery.—The statistics given by Waller tend to show that in cases in which serum was used early, the acute stage is of shorter duration, the tendency to chronicity is less, and convalescence is more satisfactory than when the serum was used late in the course of the disease, or by alternative methods. As a routine, in fairly severe cases as soon as the diagnosis had been made on clinical grounds, 140 c.c. of serum was given in three subcutaneous injections at eight hour intervals during the first twenty-four hours, while in cases of less severity 100 c.c. in two subcutaneous injections only was given during this period.

Experimental Edema in Monkey.—Harden and Zilva describe some preliminary experiments instituted with the object of studying the influence on monkeys of a diet free from the fat soluble A factor. As an antiscorbutic, lemon juice, from which the acids had been removed according to the method of Harden and Zilva, was employed, a dose equivalent to 4 c.c. of the original juice being administered daily to each animal. The diet was, therefore, complete in every respect, except that it lacked the fat soluble A factor and was low in fat. All the animals had been kept for 198 days on the experimental diet before it was modified by the addition of butter fat and olive oil. During the whole of that time, although they did not grow, they showed no signs of ill health.

Antistreptococcus Serum in Influenza.—Hughes is convinced that antistreptococcus serum aborted or considerably shortened the course of the disease in ordinary cases that were seen early. Whether any of these patients would eventually have developed pneumonia if they had not been given serum is, of course, impossible to say. The fact, however, that the serum was proved to have a beneficial effect in pneumonic cases justifies Hughes in thinking that it sometimes aborted a potentially pneumonic one. The value of the serum, speaking generally, depends on whether a streptococcus is implicated in any case, and on the treating of the patient in the early stages of the disease. In those very virulent and fulminating pneumonias characteristic of the epidemic the serum was disappointing. In the very grave pneumonic cases the danger of anaphylaxis or an unreliable serum should be considered carefully.

Quarterly Journal of Medicine, Oxford

October, 1919, **13**, No. 49

*Treatment of Malaria. J. Cowan and R. H. Strong.—p. 1.
*Pulmonary Manifestations in Malaria. A. W. Falconer.—p. 25.
Respiration and Circulation in the Goat. J. Barcroft, A. E. Boycott, J. S. Dunn and R. A. Peters.—p. 35.
Measurement of Pressure Changes in Right Ventricle of Goat by Cardiac Puncture. J. S. Dunn.—p. 46.
*Effect of Experimental Pleural Effusion on Blood Pressure in Right Ventricle. J. S. Dunn.—p. 57.
Influence of Digitalis on Different Phases of Heart Beat, Particularly as Regards Intracardiac Pressure. I. Harris.—p. 63.
*Primary Pulmonary Tuberculosis in Children. R. G. Canti.—p. 71.
Certain Phenomena Associated with Protein Shock Reaction and Intravenous Vaccine Therapy. A. E. Gow.—p. 82.

Treatment of Malaria.—Experience has convinced Cowan and Strong that many cases of "malaria" are really suffering from quinin poisoning. The amount of quinin that is administered is often large, and the smaller doses are continued for too long. In consequence, a condition of debility is induced, which, as its cause continues, also persists. Heroic doses of quinin do not cure chronic cases. The sheet anchor in chronic cases is arsenic. It, too, should be given in courses of from three to six weeks. It may be given by the mouth and pushed to full doses. If it upsets digestion, or fails to produce definite improvement, the next course should be given intravenously. Its special indication is anemia, in particular of the pernicious type. But all drugs are of little value if attention is not paid to rest and next protection from the sun and chill. Without attention to these apparent details all treatment is unlikely to produce rapid or permanent results.

Pulmonary Manifestations in Malaria.—Although malaria is frequently complicated by pneumococcal infection, Falconer maintains that numerous cases occur in which there are notable changes in the lungs without any evidence of superadded infection. These may present the physical signs of bronchitis, pulmonary congestion with more or less definite evidence of consolidation, or massive collapse of the lung. In many cases the symptoms at first are almost

entirely pulmonary and the malaria infection may be entirely overlooked. Its recognition at the earliest possible moment is important, as untreated with quinin there is a great liability for the lung to become secondarily infected with the development of true inflammatory changes.

Blood Pressure in Right Ventricle in Pleural Effusion.—In these experiments the blood pressure in the right ventricle was measured by passing a hollow needle through the skin and thoracic wall into the ventricular cavity, and connecting the needle to a Hürthle manometer by pressure tubing. Continuity between the blood in the ventricle and the tambour membrane of the manometer was established by filling the rubber tube and tambour with a 10 per cent. solution of sodium citrate. Pleural effusion was produced by infusing a quantity of defibrinated blood from another animal of the same species into one or other pleural cavity, usually the right. The most important change observed in all the experiments was the rise in mean diastolic pressure in the right ventricle. This was found at the first examination after the pleural effusion had been produced, and in two instances it was maintained at eighteen and at sixteen and one-half hours, respectively. It had subsided at twenty-three hours in one animal which was recovering, and also at twenty and one-half hours in another animal, which was dying. It was only in the first goat, which received the largest volume of fluid, that there was any considerable rise in the mean systolic pressure, which must represent the pressure in the pulmonary artery. Here is evidence that the bulk of fluid in the pleura was sufficient to cause actual obstruction to the pulmonary circulation.

Primary Pulmonary Tuberculosis in Children.—The findings of eighty-four necropsies made on children up to 10 years of age, carried out by Canti are recorded. Sixteen (19.05 per cent.) showed tuberculous lesions. The lung focus was found to be most often the size of a pea. Single lung foci were found on eight occasions. Two foci, apparently about the same age, were found in one case, and one case showed more than two foci, of which one, being cavernous, appeared decidedly older than the remainder. In the majority of cases the focus was caseous or fibrocaseous. In one case it was calcareous, in one case liquefying, and in one case there was cavitation. In all cases the lung focus was situated just beneath or involving the pleura. In the cases where only one lung focus was present it was situated in the left lower lobe in three cases, in the right upper lobe in two, in the left upper lobe in two, and in the right middle lobe in one. Tuberculosis of the mediastinal glands, other than acute miliary tuberculosis, was found in twelve cases. Tuberculous lesions of the intestines were found in four cases. Tuberculous mesenteric glands were present in seven cases. Bronchopneumonic changes in the lung tissue, due apparently to the direct spread from a tuberculous lesion, were found in three cases. Miliary tuberculosis was found in five cases where a lung focus was present, and in two cases where no lung focus could be found. From these findings it would, therefore, appear highly probable that tuberculosis of the mediastinal glands is secondary to a focus in the lung, and, further, that the focus in the lung is primary and not secondary to a focus elsewhere.

Bulletin Médical, Paris

Oct. 13, 1919, **33**, No. 44

*The Polymorphism of Tuberculosis. Emile Sergent.—p. 579.

The Polymorphism of Tuberculosis.—Sergent emphasizes that the disease in adults is the flaring up of infection acquired in childhood or reinfection after partial immunization. This flaring up or reinfection is announced by a set of disturbances and symptoms which are usually called "pretuberculosis" but which had better be called the "prerelapse of tuberculosis." He declares that it is wrong to say that tuberculosis is the most curable of diseases; the cure of tuberculosis is exceptional. But a first attack confers a relative immunity. To maintain this immunity the resisting powers must be kept at a high level. Tuberculosis cannot progress—in the adult at least—if the soil is unfavorable. Prophylaxis must combat weakening of the race and of the individual. Treatment must combat the bacillus (serotherapy), and tone up the organism until the soil becomes unfavorable for it (repose, fresh air and nourishing food, and medication to restore minerals and especially calcium).

Journal de Médecine de Bordeaux

Oct. 10, 1919, **90**, No. 19

*Aviators' Neurosis. R. Cruchet.—p. 399.
Aneurysm of Aorta Opening into Esophagus. Courbin and R. Debédat.—p. 401.
*Nystagmus and Nodding Spasm. C. Lafon.—p. 404.
Advisability of Wearing Light Gauze Underwear Inside Flannel Underclothing. Roumaillac.—p. 406.
*Medical Impressions of America. Bégouin and Picqué.—p. 407.

Aviators' Neurosis.—Cruchet explains aviators' neurosis as merely ordinary neurasthenia and psychasthenia but colored by the reactions special to aviation.

Association of Nystagmus and Nodding Spasm.—Lafon saw a boy of 12 with rotatory nystagmus who in early childhood had had nodding (bowing) spasm. He has also seen horizontal nystagmus in youths and soldiers and in one man of 30, accompanied in all with nodding spasm, but without isochronism, except that the nystagmus usually appears only as the nodding ceases. He theorizes to explain the mechanism.

Impressions of the United States.—In this further instalment of their report, Bégouin and Picqué describe their impressions of the hospitals in this country, saying in conclusion that America leads the world perhaps in surgery of the duodenum and of goiter. "But," they add, "more than the importance of the men and, generally speaking, of science in America, is the abundant resources at its command and the collective discipline which enables the chief and the personnel to accomplish the maximum of work. The abundance of resources allows organizations of a scope unknown in France but which singularly facilitate the task. The assistance from a numerous personnel allows the chief to accomplish what he does without exhausting fatigue. *Richesse et organisation, voilà*, with initiative in action, the points in which America seemed to us actually superior."

Le Nourrisson, Paris

September, 1919, **7**, No. 5

*Restricting an Infant to Water. A. B. Marfan.—p. 257.
*Infant Welfare Work During German Occupation of Lille. M. Breton, H. Poncet, L. Ducamp and J. Vanverts.—p. 271.
Malaria in Infants. Henri Lemaire.—p. 278.
*Soapy Stools. E. C. Aviragnet and H. Dorlencourt.—p. 283.

Restricting an Infant to Water.—Marfan ascribes to A. Luton of Reims in 1874 the first systematic use of the *diète hydrique* as a therapeutic measure in intestinal disease at all ages. Restriction to water rests and soothes the digestive apparatus, and probably modifies the intestinal flora while replacing the fluids lost in the diarrhea and washing out the system by flushing the kidneys and the sweat glands, with the secondary effect of combating retention of heat. The water should be plain pure water, directly from the spring, or boiled. The quantity should be about that of the food the child has been previously taking. A good rule is about 125 gm. of water per kg. of weight, up to one year. Above one year, a liter of water per day will do. Unless this much is taken, the *diète hydrique* fails of its purpose. If the child does not care for the water, it can go from six to ten hours without even water. The best way to get the child to take the water is by a teaspoonful at a time. Two teaspoonfuls every half hour for the first two hours; then four teaspoonfuls every half hour for two hours, and then six teaspoonfuls every half hour for two hours. Then eight teaspoonfuls every hour, and then ten every hour and a half. The last third of the first twenty-four hours the child can be given every two hours a nursing bottle of 100 gm. of water. With grave diarrhea and uncontrollable vomiting, a teaspoonful of ice water every fifteen minutes may be preferable, or ten or twenty drops slowly instilled in the mouth or lips from a dropper

every five or ten minutes. This water diet should never be kept up for more than three days, or the child will have to contend with the effects of inanition in addition. A breast fed child very rarely requires restriction to water for more than twelve hours. The resumption of ordinary feeding should be gradual and progressive, as he describes in detail. The ordinary food can be resumed more or less promptly according to the digestion, temperature and pulse findings. In favorable cases, about the twentieth day, the child is ready for the standard feeding for its age and weight.

Principles for Infant Welfare Work.—Breton and his co-workers describe the work of the well baby clinic and the dispensary at Lille during the German occupation. As the Germans carried off all the cows, no milk was available, and, as the factories were not running, the women could not find wage-earning work and had to stay at home. The consequence was that the women were driven to suckle their infants, and that the infants had their mothers with them at home, and the infantile death rate was far lower than ever known before in the town. The conclusion seems inevitable that distributing milk stations are an evil. The mothers rely on them and do not suckle their children, and the death rate keeps high. They urge the suppression of the milk stations or *gouttes de lait*, as they are called in Latin countries. That they are unnecessary is proved by the infinitely small number of women who are actually incapable of nursing their child when circumstances compel. Another lesson confirmed by the Lille experiences is the necessity for an adequate dietary as well as repose during the last months of the pregnancy.

Soapy Stools.—Aviragnet and Dorlencourt devote twenty-two pages to the results of research on the pathogenesis of soapy stools, and comment on the numerous points that are still waiting for solution as well as on the facts apparently established to date.

Paris Médical

Oct. 11, 1919, **9**, No. 41

*Vaccine Treatment of Osteomyelitis. R. Grégoire.—p. 285.
*Phlebitis of the Basilica. G. Milian.—p. 295.
*Treatment of Laryngeal Tuberculosis. E. Halphen.—p. 296.

Vaccine Therapy in Osteomyelitis.—Grégoire refers to acute staphylococcus osteomyelitis and describes eight cases in infants and older children which, he remarks, upset all preconceived ideas as to the course and treatment of acute osteomyelitis in children. Treatment was with a regional staphylococcus stock vaccine until the autogenous vaccine was ready, so as to waste no time. This proved so effectual that in some of the cases the regional stock vaccine was continued to the complete cure. The dose seemed to be important; at first only 0.1 c.c., representing 200 millions of the killed micro-organisms. From two to seven injections were made, the intervals guided by the reaction on the part of the heart and kidneys. The pulse runs up in eight or ten hours and keeps high for two or three days. Albumin appeared in the urine but only in minute proportions and transiently in all but one case, in which it persisted for ninety-seven days. The vaccine proved futile in the two cases with septicemia already installed, and both children died. There is no hope from vaccine therapy if the general system is undermined too much, and the general symptoms overshadow the local. In the six other cases the children began to feel better in twenty-four or forty-eight hours. The pain subsided and they ate and slept well and within fifteen, twenty or thirty days the child was using his limb without pain. During the four months to date there has been no tendency to exostoses or sequesters.

Phlebitis from Infection of Skin.—The basilic vein in Milian's case became inflamed by extension of a trichophyton lesion on the wrist. He has encountered some cases in which pustular scabies was responsible for the phlebitis.

Laryngeal Tuberculosis.—Halphen appeals to practitioners in general to relieve their patients with tuberculous laryngitis by blocking the superior laryngeal nerve and thus doing away with the painful dysphagia. In his extensive experience at the Lariboisière Hospital with this class of patients, the relief has been constant, and the injection of alcohol to block the superior laryngeal is simple and easy, owing to the superficial course of this nerve. The nerve is located by the cornua of the thyroid and of the hyoid bone, and the injection of a few drops of alcohol along its course blocks it completely, and in some cases definitely. There is a sharp pain at once, especially if cold alcohol is used, but it subsides in a few seconds as the nerve becomes blocked. The edema and infiltration retrogress and the patient can eat without dread of pain. A single bilateral injection answered the purpose in some cases; others required a new injection in five or ten days, but permanent anesthesia was finally realized after a few injections. Seven was the maximum in his experience. With the patient seated in front of him, Halphen pushes with two fingers the larynx toward the right with the left hand, and explores with his thumb the groove between the thyroid and hyoid bone on the right side. Holding the thumb there, he introduces the needle on a line joining the two cornua, first perpendicularly, then parallel to the hyoid bone, 1 cm. toward the median line. The thumb feels the needle making its way under the skin between the two landmarks. Then the needle is lightly pushed in deeper as the plunger is worked. A sharp violent pain shows that the nerve has been reached. The cricothyroid membrane must be left unmolested. Others may prefer to reach the nerve by starting from the median line, following the upper margin of the thyroid and then passing upward until the nerve is reached.

Presse Médicale, Paris

Oct. 11, 1919, **27**, No. 58

*Surgery of the Large Intestine. J. Okinczyc.—p. 581.
*Early Symptom of Rabies. L. Robert.—p. 584.
Transactions of French Surgical Congress.—p. 585. To be Cont'd.

Oct. 15, 1919, **27**, No. 59

Transfusion of Citrated Blood. R. Lewisohn (New York).—p. 593.

Surgery of Large Intestine.—Okinczyc protests against the general assumption that the death rate with operations on the large intestine is necessarily extremely high. The technic is difficult but not necessarily more dangerous than with operations at other points in the intestine. Among the features which render the operation difficult is the extreme thinness of the walls of the large intestine. This compels the use of fine needles and still finer suture material, and making the incision always lengthwise in the region of the straight bands, where the wall is reenforced, rather than in the rounding protruding part of the wall. Another special feature is the scanty vascularization which renders it necessary to spare and save all the vessels. Only at the angles is there anything approaching the rich vascularization of the small intestine, and the anastomosis should aim to avoid the regions where the blood supply is scantiest. The large intestine is also partially fastened to the posterior parietal peritoneum, but cleavage is easily realized as originally, the large intestine was as freely movable as the small. He gives ten illustrations to show different points in the technic. He advocates an artificial anus beforehand as a useful preliminary and he warns that the feces in the left half of the colon are comparatively solid as a rule while the contents of the right half of the colon are more fluid. This renders it unwise to use a Murphy button in the colon, at least in the left half, as the button is so liable to become obstructed. He expatiates on the indispensable usefulness of the valve of Bauhin; the waves of antiperistalsis seem to stop here. When this ileocecal valve is lost, the subject is tormented by the distention from the reflux of gases.

Early Symptom of Rabies.—In the eight cases of rabies encountered by Robert in Siam, he noted the constant appearance of intense pruritus as the first and most reliable symptom of the rabies. The region of the bite was all that itched at first, but then the pruritus spread to the entire body and persisted till death. The premonitory phase is characterized by irritability, depression, weeping and this pruritus. Other writers have mentioned the pruritus but none have emphasized its diagnostic importance.

Progrès Médical, Paris

Sept. 13, 1919, 34, No. 37

*Morally Abnormal Children. G. Paul-Boncour.—p. 361.
*Diabetes Insipidus and the Pituitary. P. Lereboullet.—p. 363.
Prophylaxis and Treatment of Nontuberculous Vertebral Disease. A. Aimes.—p. 366.
Medicine in Persia.—p. 368.

Morally Abnormal Children.—Paul-Boncour is chief of the Vitry Institut Médico-Pédagogique and he says that his seventeen years of living among abnormal children has demonstrated that they can be classed in five categories: the simply unruly; the delinquent unruly, led into vagabondage and thefts by bad companions; the backward heedless, affectionate truants; the unruly who have been led into vicious practices by others. Their perversion is pronounced and numerous delinquencies are credited to them. They may belong to criminal gangs, and they may have been trained to crime, but change of environment before the age of 13 may rescue them completely. Their moral sentiments are only temporarily perverted, and it would be inhuman to exclude these unruly delinquents from normal life. He adds, however, that after the age of 13 the character is so settled that there is not much hope of reform, and he refuses to admit to his school an *instable vicié* of this type if he has passed his thirteenth year. The fifth and last group comprises the actual perverts or vicious unruly. These are vagabonds and thieves like those of the fourth group, but there is a malignancy, a cruelty which colors their actions and has always accompanied them. This perversity is constitutional. By the fifth or sixth year this perverse instinct can be recognized. One of the first evidences of it is the lack of sympathy and affection for parents or friends. These children may display an insensibility to the pain of others, or a cruelty without regret for the sufferings they cause, or an actual fondness for inflicting pain on others. These constitutional perverts are the more dangerous the more intelligent they are. They are unsociable and do not join loyally in play with their mates, and yet they may be good students. Time is the best aid for classifying abnormal children, and observation for a few weeks may be the only means to distinguish between the naturally vicious and those merely trained to viciousness. The constitutionally vicious should be detected and classified by the medical school inspectors.

Diabetes Insipidus and the Pituitary.—Lereboullet in the course of his regular lecture on this subject describes the case of a man of 50 who had had syphilis at 18 and at 31 a protracted pneumonia, after which there was retrogressive infantilism, impotence, asthenia, falling of the hair and tendency to obesity. There was also polyuria. Treatment of various kinds proved futile until pituitary treatment was given, and then the output of urine dropped from the 7 or 8 liters, which had been the average for ten years, to the normal figure as long as the pituitary treatment was kept up. The extract from the posterior lobe alone was most effectual.

Sept. 27, 1919, 34, No. 39

*Pyloritis. M. Loeper.—p. 381.
*Recent Progress in Malaria. Paisseau.—p. 384.
*Serum Sickness in Diphtheria. L. Ramond.—p. 387.
Blunders in Radioscopy of the Wrist. P. Japiot.—p. 391.

Pyloritis.—Loeper describes the gastritis limited to the pylorus region. In three typical cases the microscope showed the changes in the mucosa: hypertrophy of the follicles, lymphocyte reaction and diapedesis—all restricted to the region close to the pylorus. In many cases of dyspepsia, gastritis can be invoked and among these pyloritis is frequent, and is revealed by the presence of small round cells in the stomach content. Whether they are lymphocytes or not is immaterial. There is no blood with it, and no large cells. The pains are tardy; they may be attenuated by dieting, and there are no true or persisting attacks of pain. There may or may not be nausea and vomiting, but they are rhythmical like the pains. Hyperacidity is less common than with ulcer. The pyloritis may in time engender ulceration. Treatment consists in alkalines, fasting for three hours after meals. Milk should be the only food; addition of sodium citrate will prevent its clotting and thus ward off mechanical injury as it passes the pylorus. Bismuth is as useful as with ulcer, and an alkaline-citrated solution before meals rinses out the stomach and pylorus.

Malaria.—Paisseau reviews the experiences and publications on malaria during the war, concluding his analysis with the statement that to date no means is known that will permit definite sterilization of an organism infected with malaria parasites. He adds that arsenical treatment as an adjuvant to quinin seems to be coming into favor.

Serum Sickness.—The young woman recovered promptly from a mild attack of diphtheria. She had been given three injections of antitoxin in five days and was apparently convalescing when fever returned, with extreme prostration, a nonitching eruption and polyarthritis including even the vertebrae, intensely painful at the slightest movement, but she rapidly recovered. There is danger of mistaking this for meningitis or for a relapse of the diphtheria or of a meningitis. This might have serious consequences if more of the antiserum were to be injected on this mistaken basis. Lumbar puncture may be the only means to exclude meningitis by the lack of turbid fluid and of numerous damaged polynuclears. He discusses serum mishaps in general, and adds that prevention is as effectual as treatment is futile, with the serum sickness once under way.

Correspondenz-Blatt für Schweizer Aerzte, Basel

Oct. 2, 1919, 49, No. 40

*Microsporon Infection at Lucerne. Max Winkler.—p. 1497.
*Embolism of Artery of the Retina. J. Strebel.—p. 1502.
*Inflammation Around Achilles Tendon. Peter Ryhiner.—p. 1507.
Colloidal Silver in Cystitis. H. Koller.—p. 1511.

Microsporon Epidemic.—Winkler relates that there have been a number of brief epidemics of microsporon infection at different points in Switzerland. At Lucerne vigorous measures were taken, the children affected were segregated in a special school, and radiotherapy applied so that the infection was stamped out with only twenty-four cases.

Embolism of Retinal Artery.—Strebel has had three patients with obstruction of the central artery of the retina. Obliterating arteritis was evidently to be incriminated in two cases, and no relief was to be hoped for. The other patient had an old cardiac defect and the artery became suddenly obstructed by an embolus. He punctured the anterior chamber with a broad short lancet and massaged, and in less than a month the scotoma had disappeared and the field was normal for white and all colors. The consistency of the embolus and the degree of obstruction determine whether clinically normal conditions can ever be restored. There are only fifteen cases on record of cure of embolism of the central artery of the retina. In Strebel's two other cases there was arteriosclerosis, and the retinal embolism was the precursor of cerebral hemorrhage.

Peritendonitis.—Ryhiner remarks that inflammatory processes in and around the Achilles tendon, as well as all other pathologic conditions in the feet have become very rare since more attention has been paid in military circles to the shoes and care of the feet. This renders the more remarkable a small epidemic of 17 cases of inflammatory processes around the Achilles tendon which developed in the course of two weeks in his battalion. There had been no marching and the shoes could not be incriminated, but all the men involved had just been under treatment for infectious sore throat. The salicylates seemed to act favorably in some cases, associated with the usual measures for tendonitis. A purely palliative but quite effectual measure was to fasten a wooden block, 3 or 4 cm. thick, under the heel of the shoe, thus relieving the strain on the tendon. Men could go on marching without special pain when the heel was thus raised.

Gazzetta degli Ospedali e delle Cliniche, Milan

Sept. 4-7, 1919, 40, Nos. 71-72

Stab Wound of Trachea and Esophagus. G. Marchetti.—p. 746.
*Empyema of Chest Following Influenza. P. Constantini.—p. 758.

Empyema of the Chest.—Constantini thinks he is justified in a favorable prognosis in cases of postinfluenzal empyema, as he was successful in curing his twenty-five patients in this category. All were cured in an average of forty days. Most of the patients were children, but one was 60 years old. He resected ribs and evacuated pus and fibrinous masses, all under local anesthesia, noting at most a little fever five or six days later, and a little dyspnea and cyanosis when the pleura was opened, and some coughing after the cavity had been cleared out.

Riforma Medica, Naples

Sept. 27, 1919, **35**, No. 39

*Amebic Dysentery Endemic in Sardinia. G. Boeri.—p. 821.
*Endocrine Disturbances. C. B. Farmachidis.—p. 829.
The Skin and Respiratory Organs in Influenza. Bergamini.—p. 831.
The Lenticular Nucleus. Antonio Jappelli.—p. 834.
*Hemolysis with Urine. G. Molinari.—p. 837.

Amebic Dysentery.—Boeri declares that emetin not only serves to differentiate and cure amebic dysentery in its acute form, but it is able to eradicate the disease even when the amebas are in the encysted form if systematically and perseveringly pushed. It may likewise arrest and cause the retrogression of liver amebiasis progressing toward an abscess. The abscess once formed, however, will scarcely yield to emetin alone. In prophylaxis, it is important to discover and cure all healthy carriers.

Pluriglandular Disturbances.—The young man in Farmachidis' case presented symptoms showing deficient functioning in several of the endocrine glands, the suprarenals in the lead. The Wassermann reaction was repeatedly negative, and there was no history of venereal disease, but under tentative mercurial treatment all the symptoms gradually disappeared and earning capacity was permanently regained.

The Urine Hemolysis Coefficient.—Molinari cites some recent research by Amati which confirms that physiologic urine has no hemolytic action but it seems to make the erythrocytes increase in size a little. Even when the specific gravity of the urine is very low, it does not injure the blood corpuscles. This suggests that the urine in health must contain some antihemolytic substance, and the absence of this in kidney disease and with cancer may serve in differential diagnosis from the resulting hemolysis. The latter does not seem to obey the laws of osmosis, and the hemolytic action of the urine does not necessarily parallel the hemolytic action of the blood serum. The substance in the urine causing hemolysis is apparently not modified by heating to 56 C. for half an hour.

As a distinctly hemolytic urine is rarely encountered, Amati has been studying the phenomenon from another standpoint, namely, he has been investigating physiologic urines for their content in the hypothetical antihemolytic substance, testing them with a hemolytic substance, that is, distilled water. The amount of distilled water that has to be added to the nonhemolytic urine before hemolysis is induced is thus an index of the content in antihemolytic substance. Healthy urine has to be diluted with 5 parts of distilled water to one of the urine before hemolysis occurs. Taking this figure, 5:6, as the average and almost constant index, the physiologic range seems to be from 4:6 to 10:11. With nephritis and cancer, however, hemolysis may be induced with as little as 1:11, and an index of 1:11; 1:6 or 1:3 may be obtained.

We have here a differential sign which may prove important in certain cases. Amati found the index within normal range in pathologic conditions outside of nephritis and cancer, but his experience has not been very extensive. He distributes the urine in 8 test tubes commencing with 6 c.c. and reducing by 0.5 c.c. in the different tubes. The first tube serves for control. To the others are added the distilled water in amounts increasing from 0.5 c.c. to 5.5 c.c. in the last tube. A drop of blood from the same person whose urine is being tested is added to each of the tubes. A control set of tubes is prepared in the same way but the drops of blood used are from another person. After the sets of tubes have been incubated for a sufficient time, the least dilution with which hemolysis is observed is the index of the content of the antihemolytic substance, that is, the urohemolytic coefficient of the urine in question.

Annaes Paulistas de Med. e Cirurgia, S. Paulo, Brazil

July, 1919, **10**, No. 7

*Reflex Paralysis. Enjolras Vampré.—p. 145.
Infant Feeding, Infection and Constitution. Olindo Chiaffarelli.—p. 156. Cont'n.

Remote Paralysis.—Enjolras Vampré describes the case of a man shot through the chest who developed paralysis with vasomotor and trophic lesions in the left hand and arm. He compares the case with similar ones on record, and theorizes to explain the mechanism. His theory is based on the anatomy and physiology of the nerves involved, with the physiopathologic and clinical data—all demonstrating that the *paralysia a distancia* depends on a reflex paralysis in the true Babinski sense. The flagrant contrast between the localization of the wound in the chest and the diffusion, and the ascending course of the paralytic and trophic disturbances in the arm are special features, as also their tenacious course refractory to intensive and protracted treatment.

Archivos Españoles de Pediatría, Madrid

July, 1919, **3**, No. 7

*Suppuration in the Urinary Passages in Children. A. Romeo Lozano and A. Ruiz Falcó.—p. 385.
*The Iodin Reaction in the Urine. L. Tejero y Ruiz and Celestino Moliner.—p. 420.
Prophylaxis of Child Abandonment. G. Araoz Alfaro.—p. 424.

Suppurative Kidney and Bladder Disease in Children.—Lozano and Ruiz give full details of 25 cases, all but 5 in girls. Most of the children (10) were between 2 and 5; six less than a year old; four between 1 and 2, and four between 5 and 13. The colon bacillus alone was found in 25 per cent., and associated with other germs in 33 per cent. The disease was primary in less than 15 per cent. In the others, it followed gastro-intestinal disease in about 33 per cent., measles in 25 per cent. and infectious sore throat in about 10 per cent. High fever is usually the first symptom to attract attention, remittent or irregularly intermittent, often accompanied by chills and sweats. Cystitis is less liable to be accompanied by fever, especially in older children. The pallor, disturbances in micturition, possibly pus in the urine confirm the diagnosis. The discovery of renal cells points to the kidney; both kidney and pelvis as well as the bladder may be involved at the same time. The absence of bacteria from the urine suggests possible tuberculosis, but they had one case with negative findings in which the pyelitis seemed of toxic and nontuberculous origin. There was no mortality in their 25 cases except in 3 tuberculous children. They emphasize the necessity for surveillance of the kidneys during acute infectious disease, giving fluids in abundance. Small doses of hexamethylenamin may be useful. The genital organs should be kept scrupulously clean, and phimosis, etc., corrected. During the febrile period the child should be kept in bed and fed only on milk with large quantities of water. If it does not like to drink, the water can be given in enemas or through a tube in the esophagus. Alkalines are said to render conditions less favorable for the colon bacillus, but large doses have to be given usually for this, every two hours, for eight or ten days, and their experience with this has not been very brilliant. Salol is irritating for the kidneys, and should not be given if they are involved. Epinephrin has proved very useful in their hands. It is especially potent in pyelonephritis cases. They give from 4 to 6 drops per year of age approximately, of the 1 per thousand solution, along with 0.75 to 2 gm. of hexamethylenamin, keeping up the latter until the pus disappears from the urine. If this treatment does not suffice, they advocate an autogenous vaccine. In one case of colon bacillus pyelonephritis that had lasted for four months, the cure was soon complete under the vaccine therapy, as also in a case of lactis aerogenes pyelocystitis, which had been flaring up repeatedly for fifteen months. In the other case treated with the vaccine, merely improvement was observed.

Local treatment of the bladder is rarely needed. Pain is relieved by hot applications and sitz baths.

The Iodin Reaction in the Urine.—Tejero and Moliner have been testing Petzetakis' iodin reaction, and never obtained positive findings in normal subjects. The test has no diagnostic value in tuberculosis, but it is a sign of bad omen as the majority of those giving a strongly positive reaction died within six weeks. The test is merely the addition of 2 or 3 drops of an alcoholic 5 per cent. solution of iodin to 15 or 20 c.c. of filtered urine in a test tube. The wall of the tube is tapped a few times to mix the fluid. With a positive reaction the urine turns a golden yellow. The presence of quinin and certain other drugs impedes the reaction. In thirty-seven tuberculous children followed for three months all of the seventeen giving a negative reaction are living, as also seven with a slight reaction. Of the eight giving a moderately positive reaction, only five are still living.

Gaceta Médica de Caracas

Aug. 15, 1919, **26**, No. 15

*History of Parasitology in Venezuela. J. R. Risquez.—p. 155.

History of Parasitology in Venezuela.—Risquez relates that over 200 works have been published in Venezuela since 1910 dealing with the rich and varied parasitology of the country.

Gaceta Médica de Cartagena

April-June, 1919, **2**, No. 16-18

Mortality in Cartagena in 1918. F. S. Paz.—p. 3.

Prensa Médica Argentina, Buenos Aires

Aug. 20, 1919, **6**, No. 8

Endocrine Origin of Eunuchoid Type. G. P. Goñalons.—p. 73.
*Electric Tests of Nerves and Muscles. Virgilio Tedeschi.—p. 79.
*Cartilage Implant in Skull. F. M. Bustos.—p. 81.
Histologic Findings in Occult Tuberculosis. P. M. Barlaro and J. P. Mawzinger.—p. 81.

Electric Tests of Nerves and Muscles.—Tedeschi describes an apparatus which allows more exact estimation of the element of time in electric tests of nerves and muscles.

Cartilage Implant in the Skull.—There was a breach in the skull and slit in the dura where the man had been kicked by a horse. Bustos fitted in the gap an implant cut from the costal cartilage, and the esthetic and clinical result is perfect to date (three months).

Aug. 30, 1919, **6**, No. 9

*Tardy Inherited Syphilis in Glands. M. R. Castex and J. Palacio. —p. 85. Cont'n.
Mechanism of Delivery. J. A. Beruti.—p. 89.
Medicopsychologic Conception of Aphasia. E. Mouchet.—p. 90.

Tardy Inherited Syphilis.—Castex and Palacio here continue their profusely illustrated monograph on tardy inherited syphilis, based on extensive clinical experience and the literature. In this instalment, cases of multiple glandular malformations are described. One young woman has one well formed breast while there is only a nipple in place of the other breast, and the fingers of one hand have only one phalanx each. Some of the four cases illustrated are examples of what they call "false scrofula from inherited syphilis." They discuss further the association of inherited syphilis with tuberculosis, and reiterate the importance of treatment for the suspected syphilis in glandular disease of the scrofula type.

Revista de la Asoc. Med. Argentina, Buenos Aires

April-May, 1919, **30**, No. 173-174

*Bone Complications of Diabetes. C. Bonorino Udaondo.—p. 285.
*Cystitis with Incrustations. Enrique Castaño.—p. 293.
*Sign of Cancer in Chest. Raúl Novaro.—p. 300.
*Brain Tumors in Children. R. A. Rivarola.—p. 316.
Treatment of Infected Abortion and Delivery. L. O. Romero.—p. 324.
Tuberculosis. J. José Vitón.—p. 338. Cont'n.

Bone Complications of Diabetes.—Bonorino Udaondo has recently encountered two cases of diabetes in men of 48 and 50 in which the bones had become very fragile in the protracted course of the disease. Fracture occurred at the slightest provocation, one man having thus fractured the upper third of the left humerus, the patella and the lower third of the same humerus. The fractures in the other man were in the left tibia and fibula and the right humerus at the middle third. Consolidation took long and the callus was always extensive. No other cause for the fractures could be found except the chronic, almost constant glycosuria accompanied with moderate acetonuria. Similar spontaneous fractures have been observed in three of four rabbits given injections of sugar for one to three months. In nearly all these animals the bones became abnormally flexible and more transparent under the induced hyperglycemia. Acetone seems to promote the rarefaction of the bone tissue and the consecutive dystrophy. The dental caries in his two cases may be ascribed to the same factors as the fractures. Treatment was mainly dietetic, supplying food rich in calcium or Ferrier's recalcifying dietary.

Cystitis with Incrustation.—Castaño reports successful surgical treatment in two cases of cystitis with ulceration and deposits of calcium phosphate on the ulcerations. The aspect is that of a calculus, usually multiple, and adherent to the wall of the bladder. Both his patients were women, and the symptoms in one were those of simple cystitis. In the other, there was intense hematuria in addition. Pyelonephritis and pyonephrosis developed in this case. In women, these incrustations can be scraped off, unless they are so extensive that the bladder has to be incised, as was necessary in one of his patients.

Sign of Cancer in Chest.—Novaro found in three cases, with necropsy control in one, that the sternum was pushed over to the other side with a neoplasm encroaching on the pleura, lung and mediastinum. Pitres called attention some time ago to the similar pushing aside of the sternum by an effusion in the pleura, but in this case the deviation of the sternum is toward the side of the effusion. As the pleura is distended, the sternum is drawn toward that side. With a neoplasm, on the other hand, the reverse occurs; the neoplasm pushes the sternum over to the other side. The lung on the comparatively sound side expands and thus draws the sternum toward it, so that this inverted Pitres' sign may prove an aid in differential diagnosis of neoplasms in this region. The comparatively sound lung has to work extra hard to compensate for the damage of the other lung, and this entails the inversion of Pitres' pleural effusion sign.

Brain Tumor in Children.—Rivarola's conclusions are based on fifteen cases of brain tumors in children and considerable experimental work with paraffin tumors in dogs. The cerebellum is the usual site of tumors in children, and aside from syphilitic tumors (which are exceptional in children) and tumors forming during the last stage of generalized tuberculosis craniotomy is imperative, removing the tumor if this is possible. To permit the operation, the tumor has to be located, and the general condition must be good. The very early symptoms from the lesion may permit more exact localization than later, when the tumor has grown larger. When only a small zone feels the injury from the tumor, the focal symptoms are most instructive. Months and even years may elapse without general disturbance, or only headache and convulsions. The diagnosis should be made then, without waiting for choked disk, vomiting and vertigo. If the convulsions are clearly localized, this suffices, and operations in this stage are usually successful.

In his cases and in those on record the clinicians and surgeons and specialists kept waiting and waiting for more definite signs of the location of the tumor, and postponed the operation until it came too late to save the child, as a rule. The retrospective diagnosis usually shows, however, that the child early presented symptoms which, if heeded in time and the child placed at once on the table, might have permitted the eradication of the neoplasm. His clinical and experimental experience has demonstrated, he reiterates, that incision of the cortex with the bistoury, allowing exploration of the subcortical tissues and white substance through a linear or crucial incision, does not entail permanent injury, not even when it impinges on the parietal lobe, the seat of the sensory-motor centers. Operating at this stage, with a good general condition, there is no need to operate at two sittings.

Revista Médica Cubana, Havana

June, 1919, **20**, No. 6

Nature and Treatment of Accidents Produced by Arsenical Treatment of Syphilis. V. Pardo Castelló.—p. 346.

Revista Médica del Uruguay, Montevideo

January, 1919, **22**, No. 1, Rec'd Nov. 12, 1919

*Leprosy in Uruguay. J. Brito Foresti.—p. 1.
*Torsion of Ovarian Cyst. C. V. Nario.—p. 29.
*Ferrán's Theory of Tuberculosis. A. María Oyuela.—p. 41.
*Cancer of Vulva. C. Stajano.—p. 60. Conc'd in No. 2. p. 166.

Leprosy in Uruguay.—Brito Foresti discusses the prevalence and the clinical forms of leprosy in Uruguay from the earliest times to date. He remarks that except for Chile, where leprosy is rare, all the South American countries suffer more or less from this scourge. There have been 215 known cases in Uruguay during the last twenty years, and 180 are still under observation, in a population of about 1,315,714. He regards chaulmoogra oil as the most effectual treatment, but the intolerance for it by the mouth and the occasional suppuration when injected subcutaneously have compelled him to discard it, and he now prefers ichthyol. This has materially benefited many but not all, and there was no intolerance and no protests against even its prolonged use. He gave it in 0.30 gm. capsules to a total of 2 or 2.50 gm. daily for twenty days and then kept repeating this course with ten day rests. During febrile periods, sodium salicylate was very effectual. An antiserum did not display any benefit. Colloidal chaulmoogra oil is now being tried. The youngest victim of leprosy was a boy who was 7 when the first manifestations of the disease appeared; the oldest was a man of 70. No race, nationality nor social position seems exempt, but he never happened to see a negro leper.

Torsion of Ovarian Cyst.—In Nario's two cases the clinical picture was complicated by simultaneous torsion of the appendix. The latter had twisted close around the pedicle of the cyst in one case, the tip adherent. In the other the appendix had twisted twice around the long pedicle, like a vine around a tree. In both, the mucosa of the appendix was still smooth and velvety. These and analogous findings in cadavers demonstrate that a twisting cyst is liable to draw into its twist any loose organs or tissues around. The traction from the torsion may be felt at quite a distance, even in the retroperitoneum. He suggests in conclusion that this may be a factor in ptosis.

Ferrán's Vaccination Against Tuberculosis. — Oyuela describes Ferrán's theories and deplores the skepticism with which his revolutionary ideas have had to contend. See Madrid Letter, Oct. 4, 1919, p. 1074.

Cancer of the Vulva.—Stajano tabulates the details in 30 cases of vulvar cancer of four different types. Four of the 30 women had never borne children and another woman of 53 was a virgin. The details in regard to child bearing were not known in 8 other cases. All the 18 others had borne from one to fourteen children. The neoplasm was marginal in 20 cases; in the clitoris region in 6, and around the meatus in 2 cases. He gives a chart to show the complications liable with these different types. With the marginal type, the superficial inguinocrural glands are involved from the very first, but only the glands in this region. Not only the glands on both sides in this region but also the corresponding regional cellulolymphatic infiltration are characteristic. The prognosis is not so grave as with cancer in the clitoris or meatus region. One patient had had a painless small ulceration for twelve years, not impeding several pregnancies; another, a virgin, had had vulvar pruritus for seven years, and then a tumor developed. Both presented typical cancer. The period for successful intervention was long past when pains and discomfort drove them to seek medical aid.

In conclusion Stajano emphasizes the analogy between cancer of the vulva and cancer of the mouth so far as the prognosis and the treatment are concerned. Seven of his 30 patients are known to be still in good health. All these were marginal cases. All the other patients are known to have died except 6 that could not be traced. He warns that an incipient cancer in the vulva, without glandular lesions, will probably disappear under roentgen treatment but that this disappearance is deceptive, the lesion usually recurring and often in inoperable form. This, he adds, is particularly liable in hospital and country patients that cannot be kept under supervision. Raying was regarded at first as a valuable aid in inoperable cases, but experience soon showed that these cancers soon became refractory to the rays, or seemed to progress under them, thus displaying marked difference in the response to that presented by cancer in the uterine cervix, although the two points are so near together. These deplorable results from raying vulvar cancers have been a great disappointment; they harmonize however with the experiences with raying of cancer of the lip, tongue and floor of the mouth. The only resource is complete and ample excision of the vulvar cancer, with all the inguinocrural glands on each side and, in case of clitoris cancer, also of the retrocrural glands and connecting lymphatics. He details the minute technic of the three kinds of operations required for the three groups, and insists on postoperative raying as an important adjuvant.

February, 1919, **22**, No. 2

*Bacillary Dysentery. A. M. Cuervo.—p. 117.
*Mucocele of Frontal Sinus. J. M. Alonso.—p. 143.
Aims in Child Welfare Dispensary Work. J. A. Bauzá.—p. 150.
Adiposis Dolorosa from Syphilitic Ovarian Insufficiency. J. C. Mussio Fournier.—p. 155.
*Weber's Syndrome in Boy of Four. C. Pelfort.—p. 163.

Bacillary Dysentery in Uruguay.—Cuervo reports experiences which testify that Y bacillus dysentery is common in Uruguay, and that this bacillus is responsible for many cases of intestinal disease, resembling dysentery, in children.

Mucocele in Frontal Sinus.—Alonso reviews some cases in the literature and compares them with an operative case in his own practice in which a mucous cyst was found in the frontal sinus. In his case there was an extensive destructive process, but in Avelli's case the mucocele was sterile.

Weber's Syndrome.—Pelfort reports a case in a boy of 4 presenting total paralysis of the left side with paralysis of the oculomotor nerves on the other side and positive tuberculin skin reaction. The spinal fluid seemed normal and the Wassermann reaction was negative and there were no symptoms suggesting involvement of the cerebellum.

Semana Médica, Buenos Aires

May 8, 1919, **26**, No. 19. Rec'd Nov. 3

*Motor Plastic Operations. G. Bosch Arana.—p. 471.
Vaccine Therapy of Tuberculosis; Maragliano's Biologic Method. F. Jauregui and N. Lettieri.—p. 498.

Motor Plastic Operations.—Full details with illustrations are given of eleven cases in which Bosch Arana restored more or less volitional control to an artificial leg.

July 24, 1919, **26**, No. 30

Degeneration and Regeneration of the Race. V. Melcior Farré.—p. 77.
*The Wassermann Reaction in Breast Milk. D. A. Rojas.—p. 100.
Fluorene as Reagent for Aldehyds. J. A. Sánchez.—p. 103.
*Tetanus in Argentina. E. R. Coni.—p. 104.

The Wassermann Reaction in Breast Milk or Colostrum.—Rojas reports a frankly positive Wassermann reaction in the breast milk and in the blood in 7 of 28 women; in 3 of the group the reaction was more pronounced in the milk than in the serum. In 6 the reaction was negative in the serum and positive in the milk. It was absolutely negative in the milk or colostrum only in 6 of the number, and was negative also in the blood in 4 in this group. Seventeen of the women had been delivered within five days; 11 were in the last two months of pregnancy.

Tetanus in Argentina.—Coni states that in the six years before 1917 there were 10,868 deaths from tetanus in Argentina, including 8,347 in the newly born; 1,292 under 10, and 1,129 above this age. The ten years before 1878, tetanus was responsible for about 9.2 per cent. of the total mortality at Buenos Aires, but in the last ten years the proportion has dropped to 2.9 per thousand.

July 31, 1919, **30**, No. 31

*Erythremia. J. Raúl Goyena and T. J. Masoch.—p. 113.
*Diathermy in Obstetrics. J. A. Beruti.—p. 118.
*Giant Ovarian Cysts. N. Pelliza.—p. 120.
Influenzal Hemorrhagic Purpura in Chronic Malaria. A. E. Moreira.—p. 125.
Psychophysiology of the Aviator. VII. J. A. López.—p. 126.
Colloidal Iodin in Treatment of Acute Influenzal Meningitis. C. Heuser.—p. 129.
Appendicitis as a Manifestation of Rheumatism. G. Giacobini.—p. 129.

Polycythemia.—The case of Vaquez' disease reported in detail by Goyena and Masoch was peculiar in that great enlargement of the spleen was the first sign of trouble in the woman of 30. Three years later she developed typical erythremia and while in the hospital on this account polycythemia became manifest, the erythrocytes running up from 4,510,000 to 8,400,000.

Diathermy in Obstetrics.—Beruti expatiates on the theoretical advantages of diathermy to influence atony of the uterus. The technic is not perfected enough yet to be applied directly to the gravid uterus, but applied at a distance it might tone up the physiologic processes in the uterus. It is possible also that it might aid in eclampsia, in asphyxia neonatorum, and to warm up the prematurely born, and in obstetric shock, and in rigors. He merely suggests these possible applications, not having had any experience with them. But he has found heat applied to the legs by the ordinary technic very useful in aiding the obstetric uterus to recover tone and energy.

Giant Ovarian Cysts.—Pelliza relates that in Caballero's service an ovarian cyst which weighed 55 kg. was removed from a woman of 52 in 1906. In another case, in 1914, the cyst weighed 59 kg.; this patient was a woman of 22. Gallo drained 80 kg. of fluid from a similar case. Pelliza then gives an illustrated description of a case in a woman of 49 who measured 1.43 meters around the waist. She weighed 96 kg. before the cyst was removed and 57 kg. two weeks later. Recovery was smooth, but the microscope revealed sarcoma in the ovary.

Siglo Médico, Madrid

Oct. 4, 1919, **66**, No. 3434

Ferrán's Vaccination against Tuberculosis. A. Pulido.—p. 833. Cont'n.
*Necropsy Findings in Influenza. J. H. Cerdeiras.—p. 836.
High Frequency Currents in Treatment of Syphilis. G. Hurtado.—p. 837.
*Treatment of Vertebral Tuberculosis. Decref.—p. 839. To be cont'd.
*Traumatic Shock. J. Segovia y Caballero.—p. 841. Conc'n.

Necropsy Findings in Influenza.—Cerdeiras describes the postmortem findings in seventy-nine influenza cases at Basel. This group of fatal cases formed 15 per cent. of the total pneumonic cases. The constant finding of lesions in the lungs confirms that influenza is preeminently a disease of the respiratory passages.

Treatment of Vertebral Tuberculosis.—In this instalment of his long article, Decref emphasizes that we should aid Nature's processes of healing instead of trying to make Nature work in our way. Necropsy of persons with healed Pott's disease has shown ossification of the anterior ligament and this, he thinks, is the model which we should imitate. Nature provides curves and compensations which enable the organism to balance its forces and adapt the organs to new conditions. Our task is to detect the disease early. He refers to Albee's method, saying that the latter claims that secondary operations are not necessary with his technic. "But," he adds, "Albee is not sincere, as, after making these claims, he goes on to speak of the satisfactory findings when the implant was inspected at a second operation. Why should he do a second operation? Surely not merely for the purpose of inspecting the graft, as radiography will supervise this."

Traumatic Shock.—Segovia here concludes his long article begun in No. 3431. It is based mainly on war experiences and he remarks that toxic shock is rarely encountered in peace times. Surgical measures are not needed so imperatively with peace time wounds. Nervous shock and hemorrhagic shock directly contraindicate operative measures beyond what is necessary to control hemorrhage.

Gann, Tokyo

August, 1919, **13**, No. 2

*Syncytium Cells in Tumor Tissue. K. Hashidzume.—p. 5.

Syncytium Cells in Tumor Tissue.—Eighteen photomicrographs accompany Hashidzume's article, as also a summary in German. The micrographs are from eleven tumor cases and they demonstrate that this type of cell may be derived from epithelium and endothelium as well as from connective tissue, and further that these cells may group, to form a villi-like arrangement.

Mitteilungen aus der Med. Fak. der Univ. zu Tokyo

Aug. 28, 1918, **20**, No. 2

*Obliterating Thrombophlebitis of the Hepatic Vein and Inferior Vena Cava. Y. Nishikawa.—p. 151.

Obliterating Thrombophlebitis of Hepatic Vein.—Nishikawa's monograph fills the 154 pages of this number, with several photographs of the macroscopic and microscopic findings in seventeen cases personally observed or dissected. A large folding table gives the full details of the twenty-nine on record. He discusses the pathogenesis, clinical consequences and pathologic anatomy. A number of factors are probably involved, but congenital malformations have never as yet been demonstrated. The patients were mostly in the thirties and forties, but no age and neither sex seem to be exempt.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Sept. 6, 1919, **2**, No. 10

*Cardiospasm. C. E. Benjamins.—p. 659.
*Pernicious Anemia. K. A. Rombach.—p. 671.

Sept. 13, 1919, **2**, No. 11

*Induced Pneumothorax. B. H. Vos.—p. 713.
Hysteria. T. Meinema.—p. 730.

Treatment of Cardiospasm.—It is evident from the experiences Benjamins reports that a different mechanism may be responsible for the spasm in different cases, but that usually the spasm is in the lowest segment of the esophagus and not in the cardia itself. General measures to reduce the tendency to spasm should be supplemented by systematic dilatation under esophagoscopic control. If this has been given a thorough trial and failed, an operation should be recommended. In 2 of his 3 cases of simple spasm, it was overcome by a single introduction of the olive tipped catheter. In the third the simple spasm passed into a phase of spasmodic contracture. There is a sensation of oppression, generally ascribed to the stomach itself. The lively antiperistalsis causes the food accumulating in the esophagus to be expelled, especially when aided by retching movements. In 5 of his patients the retention caused great distention of the esophagus, and in 2 others cicatricial degeneration had actually closed the lumen, compelling an operation. Guisez had 15 cases of cardiospasm in persons from 60 to 89, and 2 of Benjamins' patients were men of 54 and 64. Radioscopy with the contrast meal and with a small metal ball is usually instructive, but esophagoscopy is conclusive. In one man of 73 with symptoms of cardiospasm, not until the sixth examination did the catheter slide into the stomach and allow the discovery of a nodular cancer in the upper portion. Treatment should be that of spasm in general; the recovery in all his cases confirms that there was no paralysis. The tube is sometimes gripped by a spasm, and spasms elsewhere in the body may accompany the cardiospasm. He dilated the cardia with a set of olive tipped sounds passed through the esophagoscope tube. The irritation from imperfectly chewed food may be the cause of the spasm. In 4 of his 9 patients he found a large chunk of meat or of some fruit in the esophagus content. But there is probably some predisposing factor besides. The exaggerated reflex irritability is combated by passing the sound through the cardia, training the latter to allow the passage of other substances, so that it does not react with the spasm to the passage of food.

Pernicious Anemia.—Rombach relates experiences which confirm that pernicious anemia is not a morbid entity but merely a set of phenomena which may occur with any one of a number of actual diseases.

Artificial Pneumothorax.—Vos describes fifteen cases of induced pneumothorax in the last seven years. The immediate effects were excellent, but the ultimate outcome was far from satisfactory. The long rest of the lung did not seem to have improved the general condition on the whole, and the disease finally progressed as in cases in which this collapse therapy had not been applied.

Acta Medica Scandinavica, Stockholm

1919, **52**, No. 1-2

*Gastric Ulcer with Radiologic Niche. H. Öhnell.—p. 1.
*Studies in the Concentration of Indifferent Narcotics in Blood and Serum. E. M. P. Widmark.—p. 87.
*Thyroid Treatment of Alopecia Areata. J. Strandberg.—p. 165.
*Pulse and Electrocardiogram with Change of Position. H. Enghoff. —p. 177.
Radicular Motor Syndromes in the Abdomen. G. Söderbergh.—p. 211.

Internal Treatment of Gastric Ulcer.—Ohnell reports experiences which differ from the usual in that gastric ulcers showing a finger-like pocket or niche with the contrast meal healed definitely under internal treatment alone. The niche is usually accepted as an indication for operation. In 36 certain and 2 probable cases the narrow pocket disappeared as the ulcer healed. In 3 other cases, the pocket grew very much smaller. There has been no recurrence in any instance during the six to eighteen months since. The reason why internal treatment does not give such good results in the hands of others, he explains, is probably because the treatment is not kept up long enough. The different features of the 56 cases are tabulated under twenty-six headings, and the roentgen findings in each are reproduced. The tests for occult blood were negative, as a rule, in the cases in which the niche disappeared under internal treatment. The smallest niche shadow was 4 by 3 mm.; the widest 55 by 16, and the deepest 6 by 28 mm. The niche region was tender before or during the treatment but not in any case after completion of the course of treatment. Radioscopy of the stomach with the patient in different attitudes shows the widely different positions assumed by the stomach, with consequent traction, and on this account he keeps the patient absolutely still on his back for four weeks, and keeps him in bed for a further two weeks.

If the patient wearies of lying on his back and finds it difficult to sleep in this position, he gives a little sedative by the rectum the first few nights. This aids further in reducing peristalsis during the first three or five days in which nothing is allowed by the mouth, and the extremely cautious resumption of food thereafter. Moist heat is applied with fomentations for about a month; then he changes to cotton, and when the patient gets up this is changed for an abdominal band. Fluids are supplied copiously by the rectum, 10 per cent. grape sugar solution, 6 per cent. honey, or 0.9 per cent. sodium chlorid. He began with 400 gm. three times a day, reducing the amount proportionally as feeding by the mouth is resumed, never letting the fluid intake drop below 1 liter a day. To ward off thrombosis, the patients are made to change the position of their legs repeatedly. Hygiene of the mouth is enforced. He had no parotitis develop in any instance. The bowel movements are promoted by an enema on alternate days. The patient is warned not to strain. It is better to let feces accumulate than to strain and hinder healing at first. The diet is 30 gm. milk seven times a day, repeated the seventh day plus the yolk of an egg. But 400 gm. 10 per cent. sugar solution are given by the rectum three times a day from the first day on. Then two rectal injections are made, and the seven milk feedings total 630 gm. with two yolks. The fourteenth day the rectal injections are dropped, and 180 gm. milk is fed seven times, plus four yolks. The fourteenth day, 210 gm. of milk seven times a day and five yolks, and after this two to five soft boiled eggs, zwieback and butter are given with up to 1,500 gm. milk in five feedings. The course takes a full month. His experience confirms that a roentgen niche may be due to a deformed but not ulcerated part of the gastric mucosa. The article is in German.

Acetone Concentration in the Blood and Tissues.—Widmark has been able to deduce certain general laws which seem to regulate the concentration of acetone and other "indifferent" narcotics. He writes in English.

Thyroid Treatment of Alopecia.—Strandberg now has a record of nine cases in which endocrine disturbances seemed to be responsible for malignant patches of alopecia. All were in men except 3 but there was nothing to indicate positively endocrine disturbance. Two of the patients had dementia praecox and one signs of syphilis. Thyroid treatment was applied in every case but only briefly in 2; in 3 of the cases the hair grew again under the thyroid treatment. In one man with dementia praecox the hair began to grow in as the mental condition improved. One woman who was not benefited by the thyroid had her hair drop out again during a pregnancy, and also when menstruation returned. The article is in German.

Action of Passive Change of Position on Pulse Rate and Electrocardiogram.—Enghoff found a slowing of the pulse when the subjects were changed from a horizontal to a vertical position, the head down, while an opposite effect was apparent in rapidly changing the subject to an upright position. He theorizes to explain the mechanism of this. The article is in German, and the pivoting table is illustrated.

Root Motor Innervation of the Abdomen.—Söderbergh here presents his eighth communication on the motor disturbances in the abdomen which can be traced to spinal roots. The motor anomalies may reveal the point where the root lesion is located. The article is in French.

Hospitalstidende, Copenhagen

Sept. 17, 1919, **62**, No. 38

Relations between Tuberculosis and Lupus Erythematodes. A. L. Fønss.—p. 1065. To be cont'd.

Oct. 8, 1919, **62**, No. 41

*Duration of Diabetes Mellitus. K. A. Heiberg.—p. 1137.

Duration of Diabetes.—Heiberg has been analyzing the figures of the fatal cases of diabetes in Denmark in the last ten years. He has records of 820 fatal cases in men and 683 in women. The duration is far longer in older subjects and in men than in women. The 1,503 cases are classified by age and duration in a table for comparison. In all of the patients under 20 the disease proved fatal in from six months to three years.

Norsk Magazin for Lægevidenskaben, Christiania

October, 1919, **80**, No. 10

Bacilli of Whale Septicemia. D. M. Christiansen.—p. 993.
Mortality from Pulmonary Tuberculosis at Christiania. Arne Fisher. —p. 1038.
*Forceps with Transverse Presentation. S. Lange-Nielsen.—p. 1045.
*Inhibition Phenomenon in Antiserums. T. Thjøtta.—p. 1051. Conc'n.

Forceps with Transverse Presentation.—Lange-Nielsen gives an illustrated description of what he says is a new method for introducing the anterior blade of the forceps. He introduces it over the back of the head with the convex edge forward. He says that this seems awkward, but in reality it permits better the *tour de spirale* which brings it up better in place with less danger of injury of the head.

Inhibition Phenomenon in Immune Serums.—Thjøtta here concludes his long study of the nature and significance of the inhibition phenomenon described by Neisser and Wechsberg in 1901. It seems to be decidedly specific, becomes more pronounced as immunization progresses, and was found particularly intense in dysentery immune serum. The inhibition is the work of immune substances which develop during immunization or in the course of natural infection. But these immune substances are not identical with the ordinary immune agglutinins, bacteriolysins or precipitins. These special substances in the serum probably combine with the antigen to form a molecule complex which adsorbs the complement and thus keeps it away from the bactericidal substances in the serum. It is possible, he adds, that they may reduce or annul the action of antibacterial therapeutic serums, especially meningococcus antiserum. It is important therefore to determine this inhibition titer for each meningococcus antiserum, and, before using it, to dilute it proportionately with fresh complement-containing serum from the patient himself.